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The Province of Alberta

IN THE MATTER OF "THE NATURAL
GAS UTILITIES ACT"

—and—

IN THE MATTER OF an Enquiry into
Scheme to be adopted for Gathering,
Processing and Transmission of
Natural Gas in Turner Valley

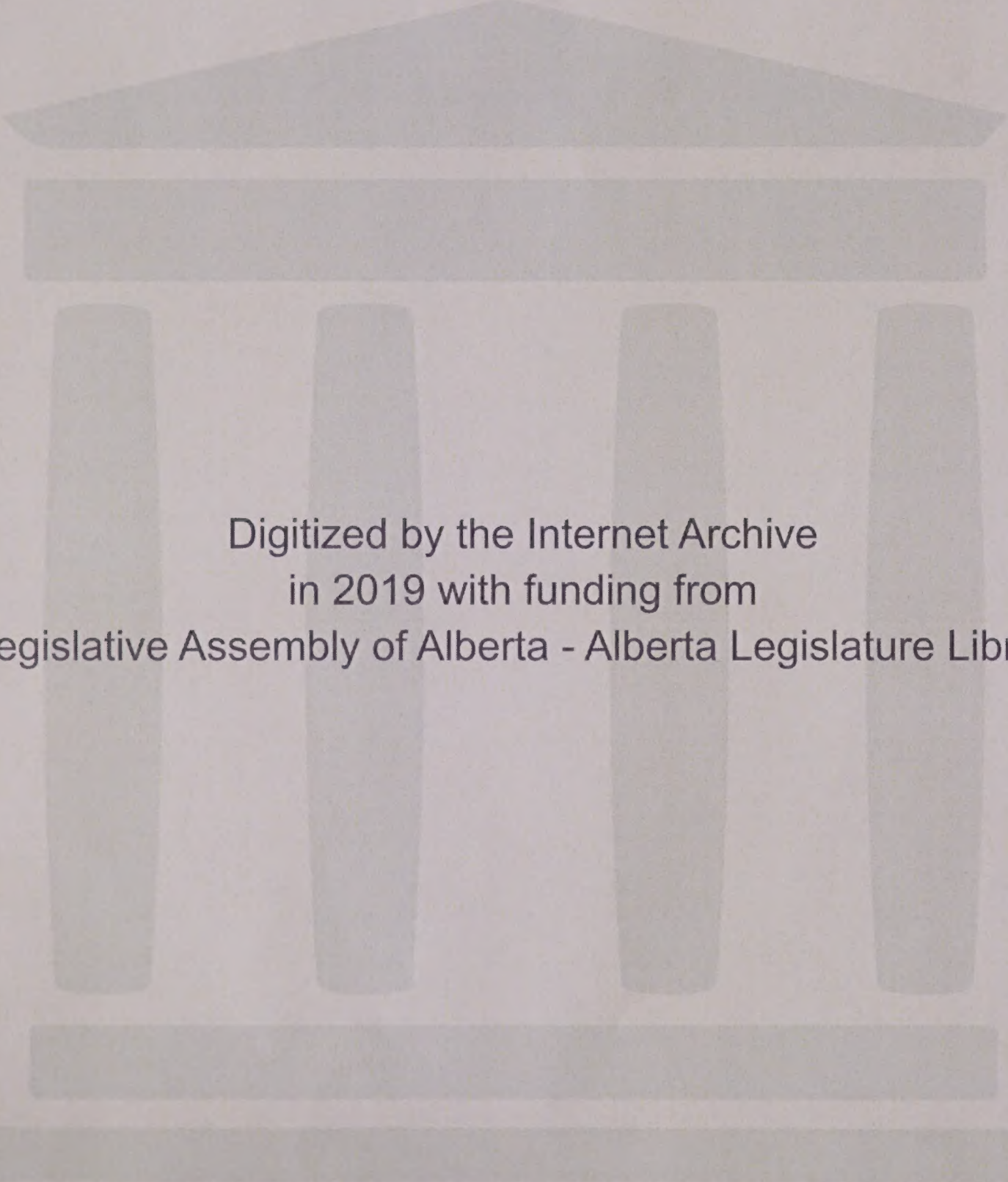
G. M. BLACKSTOCK, Esq., K.C., *Chairman*

Dr. E. H. BOOMER, F.C.I.C., *Commissioner*

Session:

CALGARY, Alberta November 13th, 1945

VOLUME 52



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I N D E X

VOLUME 52

November 13th, 1945.

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I M C Y A

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ITEM 1313

98-22

H. ZIMMER (continued)

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W X H I B L T S

No.

138 Continuation of Report of Bureau of Aeronautics, dated
Feb 22 1943, captioned "W. H. Zimmet, alias by Mr. Zimmet.. 4011.

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VOLUME 52

9.30 A.M. Session.
November 13th, 1945.

- 4025 -

CORRECTIONS IN VOLUME 51

Page 4016 - Line 1 should read "that is in any way at all."

Page 4017 - Last line should read "my conclusions are faulty."

Page 4024 - Lines 3 and 4 "Q. And you do not now.
A. I do not now."

.....

MR. McDONALD: Mr. Chairman, yesterday during his evidence, Mr. Zinder referred to a computation as to rate of return assuming a well price of 5 cents per M.C.F., 60 wholly owned gas cap wells. I have had that computation typed and I think it should be filed.

STATEMENT PRODUCED HERE
FILED AS EXHIBIT 128.

MR. FENERTY: Mr. Chairman, just before we proceed I would like to mention this matter on the cost approach, with a view of saving cross-examination if I can. My appreciation of the evidence submitted on behalf of the Producers yesterday was that this cost approach is wholly unsound. I think that is the final analysis of it and I was wondering whether we are in agreement on that. We certainly are in agreement with the producers that that is a wholly unsound approach.

MR. HARVIE: A little louder, will you please, Mr. Fenerty.

MR. FENERTY: I am sorry. I say we are certainly in agreement with the producers that that is a wholly unsound approach and I was wondering whether under those circumstances it was even necessary or desirable to go into the question of the correctness of the figures used in an unsound approach.

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MR. McDONALD: Well the approach is not unsound on the figures which are submitted but it does not apply to the valuation of this gas, that is what we say. The approach is entirely sound as far as it goes.

MR. FENERTY: Well if the oil interests are still advocating that approach, I suppose that some time we will have to go into the correctness of the figures.

THE CHAIRMAN: And at this stage, Mr. Fenerty, I would not even desire to hint that I have arrived at any conclusion whatever on the points mentioned.

MR. FENERTY: Well we will come to that then. I thought we could get away from that question of whether the figures are correct.

HANINA ZINDER, having been recalled,
cross-examination by Mr. Fenerty continued:

Q MR. FENERTY: Mr. Zinder, I do not want to labor the matter but I want to go back again to this proposition which I called the "vicious circle", because on reading the evidence last night it seemed to me that perhaps we had not gotten together on the conclusions just as far as I thought we had. Now I think we did reach the point that, assuming that coal we will say, stoker coal I referred to specifically, is competitive under present conditions with gas in some instances, and I used the illustration of a large industry, that it would follow, in the natural course of events, that an increase in the price of gas would result, in some at least, of those large industries going off the line. I think we got together on that point, did we not?

A On the assumption that you had mentioned.

Q Purely on that assumption?

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THE PRESIDENT: ... is not ...
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A Yes.

Q Now I repeat again you are not committed to any suggestion that coal is competitive. Your view may be that it costs three times what gas does but on the assumption that it is competitive in any branch, and I am taking large industries on the assumption that that might be the first place where it would be competitive, but I will put it this way, that with respect to those users where coal is competitive and on the assumption that there are some

A Yes.

QThose users, other than household users, will go off the line, that is fair is it not?

A That is correct. In my opinion, that is correct, but I would like to add if I can, Mr. Fenerty, what I had in mind by competitive.

Q Yes.

A It includes not only a comparison of the heating value and the price per unit of heating value in the two fuels being equal but also all other advantages that put that, that have a value, and that those are all equalled and by competitive I mean, that is taking your statement that they are competitive, I am assuming that all of those factors are equated and are equal and on that assumption an increase in the price of gas would be followed by a decrease or dropping off of some customers.

Q Yes. In other words what you are telling me is when you arrive where coal is competitive, you take into account the B.T.U.'s in the ton of coal and the unit of gas, whatever it is, 1000 cubic feet or whatever it may be, you take into consideration the maximum and the minimum of efficiency of

Q. Now, I want to ask you a question about the...

A. Yes.

Q. Now, I want to ask you a question about the... that coal is... three times... competitive... on the... is... on the...

A. Yes.

Q. Now, I want to ask you a question about the... the... that is... would like... by...

A. Yes.

Q. Now, I want to ask you a question about the... price... but... and... the... in... would be...

Q. Now, I want to ask you a question about the... you... error... it... on...

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both the coal and the gas, all of those items.

A I say there are additional factors.

Q Would you tell me what they are in the case of manufacturers?

A A manufacturer who is burning gas or an industry who is burning gas, if he were to convert to coal today, might have to scrap some investment that he now has in gas burning equipment.

Q Yes.

A He might have to make an additional investment in some coal burning equipment. What it would be I am not prepared to say but he might.

Q Yes.

A He might have to find space to store this coal.

Q Yes.

A Which he may not have available and he might have to do something about that.

Q Yes.

A And there are other factors, all of which add to the balancing up of the cost.

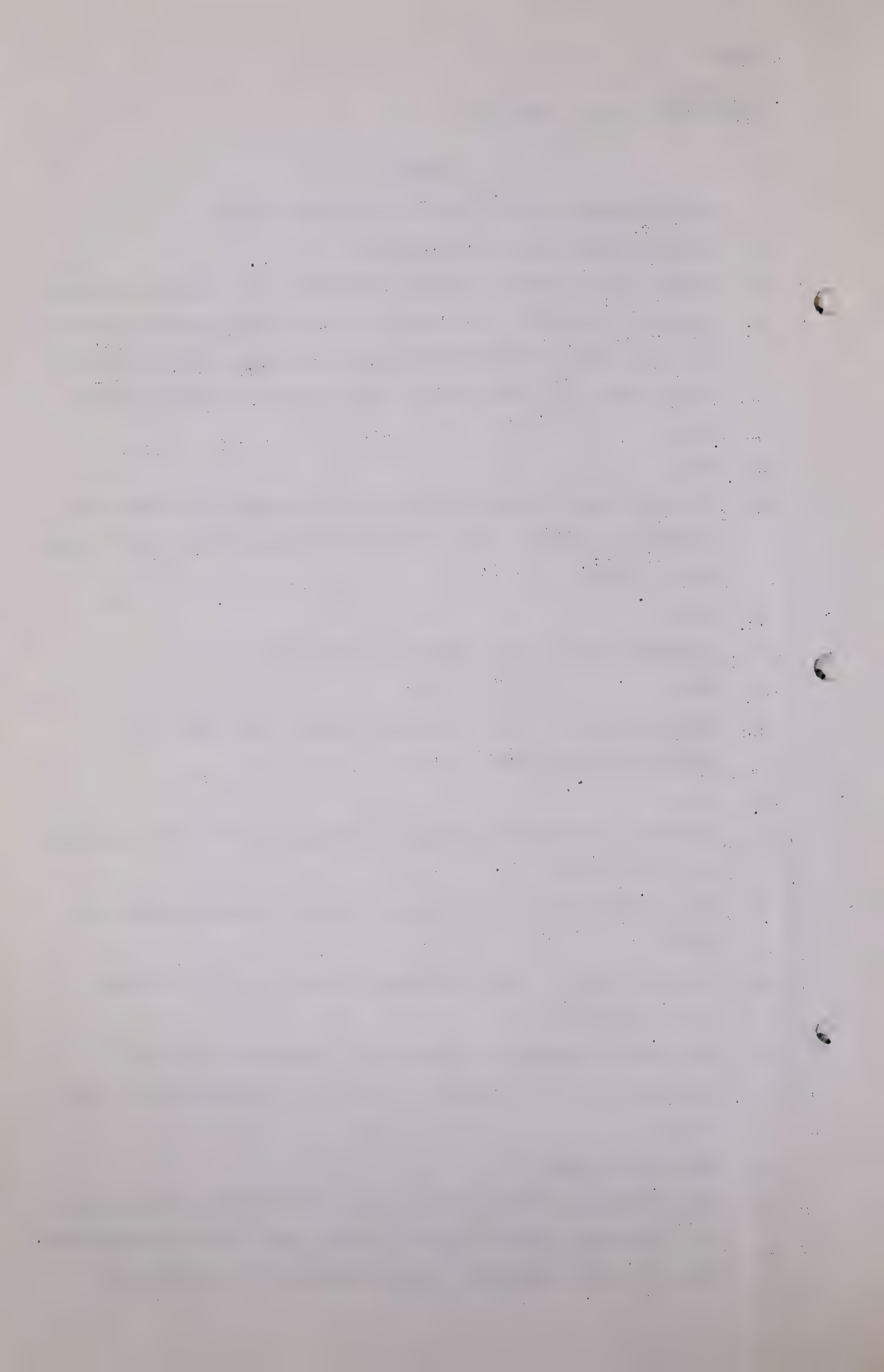
Q Yes. You are not very serious over the storage space, are you?

A I do not know. I am simply mentioning factors that might have a bearing.

Q You have to recognize his possible investment and the interest on his investment in the most modern equipment and so on?

A That is correct.

Q But taking all those factors into consideration and assuming for the moment that, with all those proper factors considered, that coal is competitive in any branch of the industry or



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commerce where gas is used today, then I say when all others are allowed, that any increase in the price of gas will result in the loss of some of that market.

A Correct.

Q And it also follows, does it not, that an increase in the price of gas under the conditions we have in Turner Valley will not promote new markets.

A You are making one assumption there that I would like to see if I am correct on, - you said that an increase in price of gas in Turner Valley will not create new markets?

Q Yes, for the residue gas.

A For the residue gas?

Q Yes.

A That is assuming, I suppose, that an increase in that price means an increase in the retail price, is that what you are saying?

Q Oh yes, I am following the chain through. I am speaking, no, I am speaking now of the retail market.

A Yes.

Q The ultimate market in Calgary and I say an increase in price to the ultimate consumer in Calgary and Lethbridge and so on, will not tend to promote a new market for its use.

A That is correct.

Q That is correct?

A Yes.

Q All right. Well I do not want to labour it too much, but then we get to the stage that, without new markets and with some of the large users going off the line, you have a smaller circle of users who must necessarily bear the carrying charges of the operation, do you not?

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A That is right.

Q That is right?

A With one possible exception if I might cite it.

Q Yes.

A If the market that has dropped happens to be sold below cost then you are dropping something which will be of advantage to the rest of the consumers. That saving is a market possibility but I do want to make that qualification.

Q But you are aware of the fact, I take it, that certain installations have been made having to do with the gas situation in Turner Valley, some of which have been made with the approval of this Board, others of which have been made in the course of time during the use of gas in Turner Valley and that, I want you to assume that provision must be made for payment of those installations, for payment of the costs of operating and the amortization of the cost of those installations, you see, it has to come from somewhere, now assume that.

A All right.

Q Then I suggest to you that you have continued fixed charges which must be met by a smaller circle of users.

A That is correct, under your assumption.

Q Yes, always under my assumption.

A All right.

Q You are not admitting anything except if the assumptions are correct, then certain conclusions follow.

A All right.

Q So you do not need to guard yourself again on that.

A All right.

Q Now all right, and that in turn necessitates, on those assumptions, an increase in price to that smaller circle of

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. This section also outlines the various methods used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the financial aspects of the organization. It provides a detailed breakdown of the budget, including income, expenses, and the resulting surplus or deficit. This section also discusses the various financial risks and the strategies implemented to mitigate them. The goal is to ensure that the organization remains financially sound and sustainable in the long term.

3. The third part of the document addresses the human resources of the organization. It discusses the recruitment process, the training and development of staff, and the overall performance of the workforce. This section also highlights the importance of maintaining a positive work environment and fostering a sense of team spirit among the employees.

4. The fourth part of the document deals with the legal and regulatory requirements of the organization. It outlines the various laws and regulations that the organization must comply with, and the steps taken to ensure that all legal obligations are met. This section also discusses the importance of maintaining accurate records of all legal transactions and the role of legal counsel in the organization.

5. The fifth part of the document discusses the overall performance of the organization. It provides a summary of the key achievements and challenges faced during the reporting period. This section also includes a discussion of the future plans and goals of the organization, and the steps being taken to achieve them.

6. The sixth part of the document is a conclusion and a call to action. It summarizes the main findings of the report and emphasizes the importance of continued effort and commitment from all stakeholders. The conclusion also includes a call to action, urging the organization to continue to strive for excellence and to maintain its commitment to transparency and accountability.

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users, to provide the funds necessary.

A That is right.

Q That is right and that in turn necessitates a further increase in price as the users drop off the line, does it not?

A That is right.

Q Yes. Now I just want to refer you to a statement of your own, Mr. Zinder, in this Schedule "1A", the last two lines:-

"Thus this average price will be increased materially with a reduction in deliveries and will decrease as deliveries increase."

That is what we are talking about?

A That is right.

Q "Price will be increased materially with a reduction in deliveries".

Now then, you have not only a material increase in price which in turn results in another group of users going off the line, do you not, take apartment blocks, as one illustration and so on.

A It may result and under your assumption would result.

Q Yes.

A In other users going off the line.

Q They will either go off the line or their commercial operations will cost them more.

A Yes.

Q What do you think the answer to that is, if it is a commercial operation?

A I have not come to any conclusion as to the situation here in Calgary.

M-1-1 - 9.45 A.M.

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Q You think that in a commercial operation they would not be interested in the dollars and cents aspect ?

A I think we are all interested in the dollars and cents aspect.

Q And if they are going to run it as a business they will run it on business principles or not go in ?

A Yes.

Q And I think we can assume this that if they are running it as a business they will not go off the line ?

A Yes.

Q And you have referred to another situation that arises in household use such as installation of electric ranges and such things that will take place even in household use ?

A That is correct.

Q And you will have a group of householders in any community no matter how much they may desire certain things, are not in a position to spend more than a certain amount of money, won't you ? Most communities have those kind of people ?

A I assume you mean will spend a certain amount of money for their gas and cooking and pot warming.

Q They are limited in their means ?

A Oh yes.

Q And if that progression continues and prices get high enough in what I call a vicious circle, you will have certain householders that can afford it, will turn to electric ranges for kitchen use and so on. They will do that.

A If the price reaches the point where taking all these factors I have mentioned into consideration it becomes cheaper with electricity why I would assume they would change.

Q That is not the point I am making. I am not saying if the price reaches a point. I am making the point with you in this

Figure 1. A schematic diagram of the experimental setup. The subject is seated in a chair, viewing a screen displaying a target (a red dot) and a starting point (a black dot). The subject's hand is positioned at the starting point, and the target is located at a distance of 10 cm from the starting point. The subject is instructed to move the hand to the target. The distance between the starting point and the target is labeled as 10 cm. The subject's hand is shown in a black circle, and the target is shown in a red circle. The screen is labeled as 'Screen' and the starting point is labeled as 'Starting point'.

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The Journal of Interpersonal Violence 26(10) 1978-1994

1. *Phragmites australis* (Cav.) Trin. ex Steud.

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progression, it is going to reach that point. It cannot help reaching that point. Am I not right ?

A I cannot agree to that conclusion since I do not know what the particular facts are here so I can only say if it reaches that point that is what will happen. I agree with you.

Q Are you telling me you do not know whether the facts are such here that you should not even consider increase in price ?

MR. McDONALD: What do you mean by here ?

MR. FENERTY: Here in Calgary. You know what I mean ?

A I do not know.

Q So you are not in a position through reason of absence of knowledge of facts to offer any advice as to the price of gas in Alberta ?

A I am not testifying Mr. Fenerty as I understand it -

MR. McDONALD: Just a minute Mr. Fenerty. Will you allow the witness to finish. You are breaking into his explanation.

MR. FENERTY: I am not interested.

THE CHAIRMAN: I think the witness is being most fair and was in the middle of making his statement when you interrupted him.

Q MR. FENERTY: Go on then.

A I am not testifying with regard to the retail rates in Calgary and the position that they occupy in relation to costs competitive levels or any other factors I understand. I am testifying with respect to the price to be recommended for the value of the gas at the well. That is as I see it my testimony.

Q Thank you. Now would you repeat my question please.

(Reporter reads) So you are not in a position through reason of absence of knowledge of facts to offer any advice as to the price of gas in Alberta ?

Trial	Control	MCI	AD
1	85	75	65
2	88	78	68
3	90	80	70
4	92	82	72
5	95	85	75

1. 1990年12月1日以前

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).

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H. Zinder,
Cross-Exam. by Mr. Fenerty.

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A My answer would be no with respect to retail prices in Calgary.

Q Thank you. Now then do you think that the retail prices in Calgary are in any way bound up with the well head price in Turner Valley ?

A There certainly is a relationship. The retail prices in Calgary I would assume should be sufficient to pay the cost or value of the gas at the well, the cost of gathering, scrubbing, transmission and distribution. I say they should be reflected in those costs.

Q Is your impression of the situation the same as mine that prices to the ultimate consumer whether they buy in Calgary at the Ammonia Plant, the Imperial Refinery, Lethbridge or elsewhere, that those are the sources from which the money for the gas at the well head at least in part will come ?

A Can I have that question read. I have lost the first part.

Q Yes. (Previous question is read)

A Yes.

And there is no use discussing the price at the well head which will result in there being no market for the gas is there ?

A No.

Q So will you agree with me that the subject which I have been discussing about the uses of gas by the retailing and the loss of the present market has a direct bearing on the price of gas at the well head ?

A Yes.

Q So I am on the track that I was after now. Now then on the assumption I have made - always that I have made - and on the basis again that we have no increase in the market but a continuous and progressive reduction in the market. You see, you agree with me ?

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H. Zinder,
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MR. McDONALD: I do not think, Mr. Chairman, this is a fair method of cross-examination.

THE CHAIRMAN: Well the point as I see it, is that Mr. Zinder is giving evidence as to well head price. If he can give evidence on cross-examination as to results which may follow when the price is at one level and at another level then I think he should give the evidence. If he is unable to do so he can say I do not know.

MR. McDONALD: It seems we were assuming all day yesterday and again this morning.

MR. FENERTY: I did not get the conclusion and I am trying to.

THE CHAIRMAN: As I see the situation I am directed to fix just and reasonable prices at various places and if I do that and the people say I won't buy gas at that price that is not my business. I am to fix just and reasonable prices and then it is for the consumer to say whether he will buy gas at that price or whether he will not.

MR. FENERTY: I will not be long on that now.

THE CHAIRMAN: Mr. Fenerty, do not curtail your cross-examination because of anything I have said. Go right ahead.

Q MR. FENERTY: Now then we are gradually coming to some kind of a point and we have got this progression that we have referred to as I understand it and see if you will agree with me.

MR. HARVIE: A little louder please.

Q MR. FENERTY: I am very sorry. We have got to the point where the prices continue to rise and your circle of consumers continue to decrease. I suggest to you that you ultimately necessarily get to the point where not only all manufacturers

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and commercial undertakings go off the line but a group of householders who cannot afford to stay on any longer go off the line. Is that fair ?

A It may be Mr. Fenerty. It may be.

Q That is the situation we have to face and contemplate anyway. You agree with me on that ?

A I do not agree with you there. I do not know whether you have to contemplate that or not. I do not know what the situation might be in the city of Calgary if the price of gas were to go up let us say one cent, two cents, three cents or more. That requires a considerable study.

Q Well I see now then I will get back to what I discussed with you a minute ago. After some discussion you did get to the point with me that the price of gas in Calgary and Lethbridge to the ultimate consumer has a direct bearing on the price that can be obtained at the well head ?

A It is one of the factors I think that should be considered.

Q It has a direct bearing on it ?

A As I said I believe in my testimony that the value of the service to the ultimate consumer sets in my opinion the ceiling of prices that can be charged.

Q Yes I see.

A And in that manner has a bearing, yes.

Q All right. Now then, let us assume then for the sake of argument that you get to the point where the manufacturer and commercial undertakings and some householders go off the line ?

A I have assumed that with you.

Q All I will get you to say is I assume ?

A Yes.

Q All right. We will assume it for a moment. Have you made any

H. Zinder,
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study at all of the cost of the undertaking as it exists today in supplying gas to the present market ?

A My investigation was limited to the production facilities and not to the gathering or distribution facilities.

Q No I am talking about everything, amortization, cost of equipment, interest, wages, repressuring, everything that is going into and the part of repressuring that does go into the price of gas ?

A I have not.

Q So that you are not in a position to say whether or not that brave little band of remaining householders can carry it or not ?

A Carry what ?

Q The cost of Turner Valley operations, the dry gas operation. You see we have assumed now that you have got no increase in market, everybody is off the line with the exception of a few householders, without a study of the costs of those operations you do not know whether those remaining householders can carry it or not ?

A No I do not. I do not know what the total costs of service are.

Q You have a suspicion have you not ?

A I do not think I can even say that.

Q Well just as man to man. Do you suggest that the few householders or the many householders if you like who will pay any price at all for gas, ten times the cost of fuel oil or anything you like to say, carry the Turner Valley operations ?

A I am not suggesting that.

Q You do not know ?

A That is right.

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Q And we have you saying that the cost of gas in Calgary is one of the factors that determines the price at the well ?

A That is right.

Q And you don't know whether the cost of gas in Calgary as a result of an increase will result in the loss of the entire market or not, do you ?

A I do not think I can answer that question. The present price of gas which is not resulting in the loss of the entire market.

Q I am not talking about the present price and I think you know that. You talk about a present increase to a point that I suggest to you cannot be carried by a few householders. You say you do not know whether they can carry it or not. I am going to ask you to assume again that they either cannot or won't carry it for the life of Turner Valley. That is not an unreasonable assumption, you see. Let us say we have got up to the price of ten times the price of the same for heating -

THE CHAIRMAN: Except that the question answers itself.

Q MR. FENERTY: I just want to see how open our minds are. You see you have got to the point where you do not know whether those householders can carry it ?

A That is right.

Q You have got to the point where you say you do not know the cost of carrying them ?

A That is right.

(Go to Page 4039)

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H-1-1 10.00 a.m.

H.Zinder,
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Q And you have got to the point where the cost of carrying it, that is the cost to the consumer, is one of the essential elements in determining the price in Turner Valley, haven't you? You have made that statement before?

A It sets the upper limit.

Q It sets the upper limit?

A Yes.

Q It is one of the elements?

A That is correct.

Q And if you do not know all of the factors, let alone part of the factors, going to determine the price in Turner Valley there is no way you can make a suggestion as to the price in Turner Valley, is there?

A I have not made any recommendation at this point as to the value of gas in Turner Valley field.

Q Yes, but I am going further. And you cannot do it without knowledge of these factors, is not that right?

A I would think, Mr.Fenerty, that knowledge of the relationship between the cost of gas and its value to the ultimate consumer would be a factor necessary to arrive at the value of gas in the field, yes. And the cost to be deducted from that value.

Q Would you go so far with me, Mr. Zinder, not as a matter of fact but as a matter of expert opinion, that where you have made or where you make the assumptions I have asked you to make, this gradual progression that I have gone over with you twice, including the assumption that you do not get any further markets by gradually increasing prices, that will in the end necessarily result in the loss of the present Turner Valley market, isn't that the logical and inevitable result of those assumptions being correct?

H. Zinder,
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A If your assumptions are correct.

Q If my assumptions are correct that is the result, isn't it?

A That would be the result.

Q That is what I want to get at.

A All right.

Q Now, I was interested in your remarks there about the higher limit of prices, and it occurred to me that you were thinking much along the same lines as Mr. Hill, who gave evidence in this Inquiry. I do not know if you know of that evidence. But I want to read to you what Mr. Hill said at pages 1780 and 1781, in dealing with the things that the Commission should consider. He said:

"They should consider present day value and I know of no better way to consider present day value than the reproduction costs new conservatively made. They should consider historical costs and the circumstances under which that cost was incurred, namely, whether it was built by an operating organization or whether it was built at one single time under normal construction conditions and they should consider the value of the services" -

this is the part that want you to consider, -

"that is what the property is worth to its users and they should consider that as a maximum rate above which they should not go, no matter what rate base they use. That is the top. They must not go higher than the product is worth because if they do the users will not buy it."

That is your idea too, isn't it? It is the maximum.

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A With regard to the value of services, that is correct.

Q And on this assumption I have made and on the answer that you have given me, on the basis of those assumptions, an increase in prices now necessarily results in a maximum rate much above what the users will pay, doesn't it, and they go off the line?

A Well, you would have to assume, Mr. Fenerty, that the increase in price would force them off the line, and I am saying on that assumption that is correct.

Q On that basis, if that is right?

A Yes.

Q And some will go off the line. And you have told me that some will go off the line if coal is competitive with all the elements considered, then you inevitably have got at some time something above the maximum rate at which the consumers will buy?

A That is right.

Q And you and Mr. Hill both advise against running into that situation, don't you?

A Yes.

Q And then if my assumptions are correct, then you cannot have an increase in prices in Turner Valley, that is the final result isn't it?

A Well Turner Valley is only one factor in the picture.

Q That follows from all those assumptions, doesn't it?

A Well, that means that you cannot have an increase in prices anywhere along the line.

Q That means that you cannot have an increase in prices anywhere along the line in Turner Valley without losing the market, does not that follow?

THE CHAIRMAN:

Supposing this increase was a

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tenth of a cent?

MR. FENERTY: Pardon?

THE CHAIRMAN: Supposing this increase was a tenth of a cent?

MR. FENERTY: I was wrong in what I said. My question was too limited.

Q May I put it this way, you cannot have an increase in the price in Turner Valley that is reflected in the rates to the ultimate consumer without losing the market?

MR. McDONALD: On what assumptions?

A THE WITNESS: I cannot agree to that, Mr. Fenerty. On your assumptions, Mr. Fenerty, in which you have mentioned no increase in prices specifically, but you have assumed that any increase in prices, or some increase in prices that you have not divulged, would cause certain reactions in the Calgary market, those reactions being loss of business, that it would immediately go beyond the value of the service to the various customers, various classes of customers.

Q MR. FENERTY: Yes?

A Now on those assumptions, the increase in prices that you have mentioned, not mentioned but the increase in prices that you have in mind, which I take it is anywhere from zero up to a dollar per MCF, it might be any place, would cause the reactions which you have indicated, you practically assumed that.

Q Just a minute. I did not ask you to assume that increase in price would cause loss of business?

A Yes.

Q I asked you to start with the assumption that coal was competitive. Now, considering all the factors that you mention

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in one branch of the industry, and you agreed with me that if that was so an increase in price would result in some loss of business, didn't you?

A That is correct.

Q So that there was no assumption that the increase in price would result in the loss of business. I got your answer as an expert that that would happen?

A That is correct.

Q And you have told me that the price in Calgary has a direct relationship to the price in Turner Valley, that is one of the elements?

A That is right.

Q And I say that my assumption that coal is competitive in one branch of the industry, considering all the factors as correct which have been necessarily, which then necessarily follow from that progression that we have gone through, that any increase in prices from the present price, which is competitive with coal, we will say, assuming this, results in the ultimate loss of the present market.

MR. McDONALD: Just a minute, Mr. Fenerty. It was the assumed price competitive to coal?

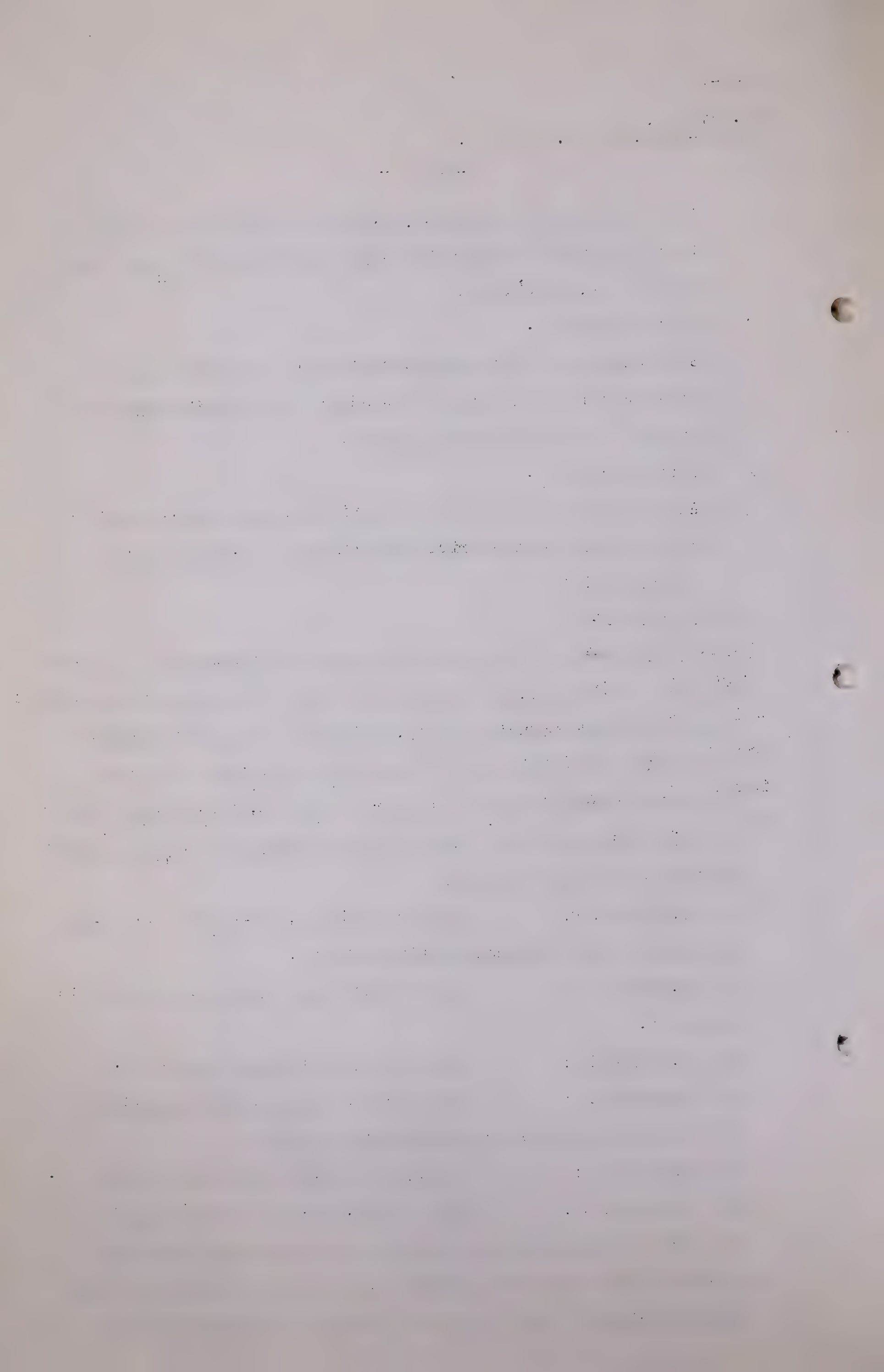
MR. FENERTY: That is the only basis I am talking about.

MR. McDONALD: You say in the assumed price.

THE CHAIRMAN: Of course the witness has answered this question five or six times this morning.

MR. FENERTY: I am sorry, I did not think he had.

THE CHAIRMAN: That is, Mr. Fenerty, if we still have your basic assumption in all these questions that coal is competitive, and every factor between coal and gas has been properly equated, then you have reached the point which they



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call the equilibrium, then on that basis or on that assumption that is the answer to the question.

MR. FENERTY: As long as we are clear on that.

Q I want you to assume one thing only, that coal is competitive in one branch, and everything else; are we in agreement on that then?

A Yes.

Q Well we will leave that subject. Now I am going to refer you to a statement in Barnes Economics of Public Utility Regulation at page 544.

"If the inability of the Company to earn the full return is a result of an investment which is out of proportion to the market which the utility is serving, the loss must fall on the security holders

the responsibility for the unprofitable conditions cannot be placed on the consumers."

Now, in the light of that statement, I will ask you presently if you agree with it. In the light of that statement, if we have a situation as a result of the progressive loss of markets that we have referred to, which results in an investment which is out of proportion to the market the utility is serving, you see?

A Yes.

Q Our investment continues and this market has gone down to the point I have talked about, Mr. Zinder, I suggest to you that if this proposition is sound the loss must fall on the utility. Do you agree with that?

A May I see that?

Q Yes? I know a person has to look at these things.
(Book to witness).

A That involves, Mr. Fenerty, the question of the definition of

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what is an investment which is out of proportion to the market which the utility is serving.

Q Yes?

A If what Mr. Barnes means is that to earn a full return on that investment would bring the cost of service above its value, then I would say you could not pass on the fixed charges on that investment or that increment of the investment which places the cost of service above the value to the consumer.

Q Yes, I see. But would you go this far with me, that what we have discussed and the situation as you now see it, is such that in your opinion the proper approach to this problem is something other than increases in rates. Can you go that far with me?

A No, I would not.

Q You would not?

A No.

Q You would not go quite up to that?

A No.

Q It may be that you will go that far?

A It may be.

Q Yes. I see. Now, we had a discussion with you yesterday which may have been perhaps more academic than practical, but I want to go into it a little further anyhow, about advantages and disadvantages that this country, Alberta, I will be specific, enjoys in labour. You remember I talked about freight rates and commercial undertakings?

A Yes.

Q And I suggest that as far as we got yesterday, we found one portable advantage, and that was natural gas, that is one we had mentioned that might be an advantage?

A Yes.

I N D E X

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E X H I B I T S

No.

128	Computation of Rate of Return on Assumed Well Head Price of 5 cents per M.C.F., filed by Mr. Zinder..	4025.
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Q And you agreed with me, I think, that it might be possible to capitalize on that advantage by bringing in industries and getting a balanced economy, if it were possible to reduce gas prices?

A Yes.

Q And that there might be a possibility that that would result in greater profit in the end. That depends on many circumstances?

A That is right.

Q Now, as you are aware, a brief has been submitted on competitive fuels which is going to be revised, and which also will form part of your submission, and which, I take it, will also be revised to correspond with the revision in the other brief?

A That is correct.

Q But, I gather from the fact that you have mentioned the subject, that you consider the question of competitive fuels one of the proper approaches to the price of gas, both at the wellhead and in the retail market?

A That is correct.

(Go to page 4047).

T-1-1 10.15 A.M.

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Q And I suggest to you that that approach involves an approach to this problem directly opposite to that which I mentioned a while ago, that is lowering prices and bringing in additional users. I suggest to you it necessarily involves this approach, we have now an advantage or an asset in natural gas, you see.

A Yes.

Q The price of Drumheller coal, we will say, is so much and we cannot compete, for instance, with it at present prices. We cannot compete with electrical energy and water power. We will forget all about competition and any advantages we enjoy. Our position is that although the price of Drumheller coal is so much, we are entitled to have the price of gas brought up to an equality with that coal. Do you think that is a fair approach to this thing and that we should enjoy the advantages of natural gas? Do you think that is a proper approach?

A I think that is a fair approach.

Q And do you think that we have made enough money already from the oil and the gasoline content that the price of gas should be lower?

A I think it should be recognized that that is one approach.

Q And would you think that that might be a sound approach?

A No, I do not think so.

Q All right.

THE CHAIRMAN: I wonder if a lawyer ever gets to the situation where he has made enough money?

MR. FENERTY: I do not suggest that.

THE CHAIRMAN: Or if that only applies to the oil and gas industry.

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MR. FENERTY: From my knowledge, and I have been associated with law for a long time, we never can make enough money.

THE CHAIRMAN: I agree.

Q MR. FENERTY: Now by the way, Mr. Zinder, in this cost approach based on 60 wells I gather now you are suggesting to revise your statement and are discarding the original figures and working on the submission of Mr. Hamilton?

A That is correct.

Q You have made no independent inquiry or survey to indicate which of those wells have, if any, been abandoned?

A No, I have not.

Q And which are used and useful today?

A I have not.

Q You are simply working out the figures based on the statement contained in Mr. Hamilton's submission?

A That is correct. I have used Mr. Hamilton's figures and if it develops that they are incorrect the calculations can be revised accordingly.

Q So that if we do not like those figures, we have to talk to Mr. Hamilton, that is about the size of it?

A Any question with regard to these figures I would assume would be taken up with Mr. Hamilton.

Q Then I will not discuss them with you.

A Yes sir.

Q I want to come to the comparisons of the values and costs of Turner Valley gas and other fuels. Am I right in assuming you have made some inquiries as to the properties and analyses of Turner Valley gas?

A In a general way, yes.

Q And as to scrubbing costs?

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A The question of scrubbing costs is one which I understand is before this Board.

Q You have not gone into it?

A I have reviewed some of the submissions with respect to these costs as they are before this Board.

Q And compression costs?

A Yes.

Q And recompression costs and storing in the structure?

A In a general way, yes.

Q Have you made any investigations as to the dual function performed by that gas in relation to natural gasoline and well lifts as well as the dry gas industry?

A In a general way to this extent that the use of gas in relation to the oil itself, bringing up the oil in question as I understand is the situation here and as found in many cases in oil wells in the States.

Q And in discussing the competitive prices of coal I see by the submissions which I understand are going to be revised that they were based to some extent on Drumheller coal delivered in Calgary.

A That is one element.

Q That is right.

A Also there was discussed fuel oil in Calgary.

Q That is right and I take it that in making a comparison of competitive fuels you would not use, for instance, the price of bituminous coal at the pit head in Cape Breton, Nova Scotia.

A It might have an influence.

Q Or Anthracite in Pennsylvania?

A It would have an influence.

• 1944 •

1944

1. 1944年1月1日，美国对日本宣战，太平洋战争爆发。

2. 1944年6月6日，盟军在诺曼底登陆，开辟了欧洲第二战场。

3. 1944年10月，盟军在菲律宾的莱特岛登陆，开始了对日本的反攻。

4. 1944年12月，盟军在太平洋的塞班岛战役中取得胜利。

• 1945 •

5. 1945年4月，盟军在柏林战役中击败德国，第二次世界大战欧洲战场结束。

6. 1945年8月，美国在日本广岛和长崎投下原子弹，迫使日本投降。

7. 1945年9月2日，日本在东京湾的密苏里号战列舰上正式签署投降书，第二次世界大战结束。

8. 1945年10月，盟军进入柏林，德国无条件投降。

9. 1945年12月，盟军在柏林战役中取得胜利，德国无条件投降。

10. 1946年1月，盟军在柏林战役中取得胜利，德国无条件投降。

11. 1946年2月，盟军在柏林战役中取得胜利，德国无条件投降。

12. 1946年3月，盟军在柏林战役中取得胜利，德国无条件投降。

13. 1946年4月，盟军在柏林战役中取得胜利，德国无条件投降。

14. 1946年5月，盟军在柏林战役中取得胜利，德国无条件投降。

15. 1946年6月，盟军在柏林战役中取得胜利，德国无条件投降。

16. 1946年7月，盟军在柏林战役中取得胜利，德国无条件投降。

17. 1946年8月，盟军在柏林战役中取得胜利，德国无条件投降。

18. 1946年9月，盟军在柏林战役中取得胜利，德国无条件投降。

19. 1946年10月，盟军在柏林战役中取得胜利，德国无条件投降。

20. 1946年11月，盟军在柏林战役中取得胜利，德国无条件投降。

21. 1946年12月，盟军在柏林战役中取得胜利，德国无条件投降。

22. 1947年1月，盟军在柏林战役中取得胜利，德国无条件投降。

23. 1947年2月，盟军在柏林战役中取得胜利，德国无条件投降。

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Q But you do not think of using them, do you? You take the price of coal in Calgary, don't you?

A For determining the competitive situation with respect to fuels in Calgary.

Q And that is the only basis you can take, is it not, the price in Calgary?

A I would say it is not the only one but I think it is the most significant one.

Q I see.

A Yes.

Q Well let us pursue that a little bit.

A Yes.

Q Suppose I produce evidence to you that the price of certain coal that is capable of being burned in Calgary is much less at the pit head in Nova Scotia than the price of Drumheller coal in Calgary. Would that modify your comparison?

A If it meant that that coal could be brought into Calgary at a lower price than Drumheller coal.

Q Oh no. Suppose I say to you you cannot compare the price of Drumheller coal in Calgary with its B.T.U. content and all the rest of it with gas in Calgary because I can get bituminous coal at the pit head in Nova Scotia for less or anthracite in Pennsylvania for less. I say would you say that has nothing to do with it, Would you?

A No, I thought I said, Mr. Fenerty, that if that coal could be gotten at these distances at less and brought here into Calgary at less.

Q But if I said I refused to discuss with you the cost of bringing it to Calgary and I say that you cannot take Drumheller coal in Calgary as a fair test because I can get

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bituminous coal for less in Nova Scotia, would you say I am just off the track? Would you? I have got to bring it to Calgary and compare the prices.

A If you have prices in Calgary, I would certainly think that you would compare those prices.

Q The price at the pit head in Nova Scotia has nothing to do with it except if you had a certain freight rate by which you might get it to Calgary at a certain price.

A That is correct.

Q But that reply does not apply, I take it, in your submission to determining the gas prices?

A I would say the same thing is true with respect to determining gas prices.

Q Now you refer, in your submission, to various prices in various fields in the States.

A Yes.

Q And average prices?

A Yes.

Q And as a result of those computations as I gather you wind up with a suggestion that a five cent price at the well head might be proper in Turner Valley. Does that follow from those conclusions?

A I have not suggested or recommended any price at this time.

(Go to page 4052)

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- 4052 -

Q Oh, you have not ?

A I have not.

Q And you are not in a position to do so ?

A I might have an opinion on this point with respect to that matter.

Q But you are not in a position to make a recommendation ?

A I would say "no" at this time.

Q Now I want to refer for a moment to one of your references, Page 9 in this brief, the Hugoton field, is that the way you pronounce that ?

A Hugo-ton.

Q On Page 9 you refer to a recent case before the Corporation Commission of Oklahoma in which the Commission found that:

"No gas should be used in the manufacture of carbon black at a price less than the going price of gas in said field."

"That the going price of gas in the Hugoton field in Texas County, Oklahoma, is at this time not less than five cents (5¢) per M.C.F."

Now does that appear to you to have been an Order or a Judgment to prevent gas being sold for less than five cents, is that what that was ?

A It does to me, Mr. Fenerty.

Q It does ?

A Yes.

Q I see, so that there is a disposition to sell gas at less than competitive prices, shall we say, if there is a market, - is that the situation in the United States ?

A There would appear to be a disposition to prevent certain sales of natural gas that might be below the market or below what

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...and the other is the fact that the system is not self-correcting. The system is not self-correcting because the system is not self-correcting.

[illegible]

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- 4053 -

this Commission seemingly, the Oklahoma Commission, considered to be a fair value for the gas.

Q I see.

A Prices in any field will vary some. In my opinion over a period of time they will tend to reach an equilibrium.

Q Yes, you said that a moment ago ?

A Yes.

Q But it does not necessarily follow that those prices which you have quoted are competitive prices does it ?

A Yes, it might be competitive. For example, in answering that question that way, gas at five cents in the Hugoton field could be piped or transported as much as nine hundred miles to Chicago and compete with fuels in Chicago.

Q Yes.

A It could be transported other distances and compete.

Q Yes, but you are quoting the price in the Hugoton field of five cents indicating something and I am suggesting to you that that indicates that the Commission would not let them sell it at two cents ?

A I do not know what price might have been established between those parties.

Q I am just using this two cents - -

A If the Commission had not said five cents.

Q It might have been four or three ?

A It might have been four or it might have been four and a half or it might have been three, it might have been anything, I do not know.

Q So certainly so far as the Hugoton field is concerned, at the well head there is no question of competitive prices, is there?

A Oh yes.

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Q You mean competitive in the sense that the Board has kept it up to a figure and you say that is competitive ?

A I would say that the prices which I have shown on Schedule No. 3-A involving the Pan Handle and Hugoton fields, there are a number of purchases there where I would say the price has been bargained for at arm's length and represents a competitive price.

Q Now I want you to discuss the Hugoton field gas with me; it so happens I happen to have available some information on it and I want you to confirm it. I am reading from an article on the Hugoton gas field in the August 1945 number of the Petroleum Engineer and I find, amongst other things, that on Page 182, there occurs the statement that:

"The gas is uniformly sweet throughout the field with the exception of a small area in Sherman County, Texas."

Is that according to your information ?

A Yes.

Q And I also find at the bottom of Page 178:

"Commission shows present pressures ranging from 370 to 420 pounds. The lowest pressure listed was 356 pounds."

Is that according to your information or have you any information on pressures ?

A Not specifically at this moment but according to my recollection that is about right, that is correct.

Q And I also find that, the well spacing, where can I get that, was it 640 acres, do you know about that ?

A I think it is about 640 acres.

Q Yes:

"An examination of the basic order shows that the basic

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Received of the Treasurer of the County of ...

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H. Zinder,
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- 4055 -

acreage unit in the proration formula is 640 acres."

I gather from all that, that this is essentially
a dry, sweet gas field ?

A That is right.

Q And this price of five cents is the field price ?

A The price of around five cents to my knowledge is the prevailing field price, particularly for pipe line deliveries.

Q Yes, and are those prices which you have quoted in your statement, field prices ?

A They come under the broad category that I call "field prices", yes.

Q Now I want you to assume for the moment that Turner Valley gas is not sweet, that it needs scrubbing, and assume for the moment that as a result of the various operations and the well head pressures, the use of compression is required to deliver it to Calgary, and assume for the moment that as a result of the reduction of that gas, that compression or recompression in the field is required, I suggest to you that you have none of those elements which require consideration in the Hugoton field, I mean in the value of the Hugoton gas, is that right ?

A It is your question, that none of those elements - -

Q Well you do not need scrubbing in the Hugoton gas do you ?

A No.

Q And you have sufficient pressure that you do not need compression, is that right ?

A You would need compression if you carry it a long distance.

Q But not in the delivery of it at the input of your delivery line ?

A That is correct.

Q And you have no repressuring problem, because they take it as they use it ?

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A That is right.

Q And if you stop to compare Turner Valley gas with that gas you would necessarily have to figure those costs by way of a deduction from the field price of the Hugoton gas, would you not, to get a fair comparison ?

A I would say, Mr. Fenerty, that all those factors would enter into the final value of the gas, yes.

Q And if you take those costs away from five cents, what do you think you would have left ?

A Mr. Fenerty, I would not go along that you necessarily would take five cents in the two fields and then deduct from that five cents here in Turner Valley the differences due to the cost of repressuring, the cost of compression or any other cost.

Q You would not ?

A Not necessarily, no.

Q Oh, well, we will leave that, that is a matter of argument, but taking the five cents as a fair price for sweet gas, which does not require any of these processes, would you not go along with me, that if you get another gas that you are going to compare with it, you must ascertain the cost of those processes and reduce the value of the gas accordingly ?

A I would say "not necessarily" to that, Mr. Fenerty, with all other factors being equal. Now all other factors being equal.

Q Yes.

A That there would be a difference by the cost of scrubbing or compressing the gas and other costs.

Q Yes.

A However I have stated, I believe that one factor in the determination of the value is the cost of production, that is which

CHAPTER I

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can be found and determined. Now what is the cost of producing Hugoton gas, for example, with Turner Valley gas for instance, what is the market or competitive situation in Calgary as compared with the competitive situation in Wichita, Kansas, or Chicago, or somewhere else - -

Q No, let me interrupt, just compare Hugoton gas with Turner Valley gas and in that I suggest to you that a field price of five cents for Hugoton sweet gas at that pressure, and what would result from that spacing, make^s sour gas with compression and recompression in Turner Valley look pretty good at two cents, what do you think, and just with that one comparison. There are others which you are making, but I am making that one.

A I cannot answer that.

Q What ?

A I cannot answer that question, I do not know.

Q You do not know but you think it looks pretty good, don't you as man to man ?

A At two cents ?

Q Yes, on that comparison ?

A I cannot say.

Q I see. All right, we will leave it at that. Well now Mr. Zinder if you cannot say about that, there is no use of my pursuing other figures on the properties of the gas because you will not be able to say whether those are proper comparisons or not, will you ?

A Well I have, I do not know until you state them, Mr. Fenerty. I cannot answer as to whether I would or would not until I know what you have in mind.

Q I want you to think for a moment and I want to suggest to you

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the effect of what you have just told me, as illustrated by this Hugoton field, is that you have no proper basis for discussing the price of Turner Valley gas because of prices in some gas fields in the United States, does not that follow ?

A No, I would say this, Mr. Fenerty, that in attempting to establish a price or value of gas at the well in Turner Valley, I believed certain information is helpful and useful and I have tried to present that information to the Board.

Q I see.

A For whatever value it is in their determination of that value.

Q I am sorry. I keep thinking that you are going to make a recommendation. I am just sorry about that, but you have agreed with me, have you not, that without consideration of factors which you have not considered that the price of sweet gas in the Hugoton field at the well, has not necessarily any relationship to what should be the price of sour gas at the well head in Turner Valley; we have got that far together, have we not ?

A No, I did not state that it had no relationship.

Q I thought we had.

A If I thought so, Mr. Fenerty, I do not think I would have presented this comparison or this statement to the Board. I think it has some value in assisting the Board in coming to a conclusion.

(Go to Page 4059)

1. Introduction

The first part of the paper discusses the importance of understanding the underlying mechanisms of the system. It is essential to identify the key components and their interactions. This section also reviews the existing literature and highlights the gaps in the current knowledge. The goal is to provide a clear and concise overview of the problem at hand.

The second part of the paper presents the methodology used in the study. It describes the experimental setup, the data collection process, and the analysis techniques. The results of the experiments are presented in this section, along with a discussion of the findings. The paper concludes with a summary of the main points and suggestions for future research.

The third part of the paper discusses the implications of the findings and the potential applications of the research.

The fourth part of the paper discusses the limitations of the study and the need for further research.

The fifth part of the paper discusses the conclusions of the study and the implications for practice. The paper ends with a list of references and an appendix containing additional data and figures.

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Q I am suggesting to you that you are not comparing a thing. There is no more reason to discuss gas at the well head than there is to discuss anthracite coal at the pit head. Are you trying to do just the same kind of thing ?

A No, I think in my direct statement I stated that gas for one thing as an example had a commodity value. Now that commodity value may be the same here as it is in the Hugonot field. I also stated in my direct testimony that indirectly the price of gas and values of gas at the well head in the States has an influence upon what might be and what is a proper value in Turner Valley field because gas can be transported here to other markets. Those are all factors I feel have got to be considered.

Q Would it be fair to go further afield and discuss prices at well heads in Mexico and Peru for instance. They have some gas down there, some of it ?

A Well Mr. Fenerty in answer: to that question the Hugonot and Pan Handle field for example serve markets which I have stated can conceivably be within the range of Turner Valley gas to be served by the same. I do not think I have gone so far as to go to Mexico.

Q I think somewhere in your statement the basis for making this comparison that the price in the States tends to reach a common level ?

A I think that is the tendency.

Q And that is the basis for your making the comparison is it not ?

A That is one of the basis.

Q And I suggest to you that your schedules indicate they do not reach a common level. Am I right in that.

A I would like to point it out I have not said they have reached

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$\frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx = \frac{1}{\sqrt{\pi}}$

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a common level at this point. I said there was a tendency in my opinion towards them going in that direction.

Q I will give you the one I have in mind. I want to get your remarks on the operation of the field and the Pan Handle. Where is that. Yes, at the bottom of the first page, Schedule #2, referring to the last paragraph, referring to the Appalachian area. "The value of this gas, which is almost all dry gas from shallow wells and produced close to the large industrial and populated eastern cities has always been much higher than the production in the mid-continent or Gulf-coast region." Always has been much higher. I think we find twelve cents as compared to five, nearly two and a half times as high?

A I would like you to refer Mr. Fenerty to a further statement with respect to Schedule #2 where I discussed the question the tendency towards reaching a common level. At that point I said:

"As will be shown in later schedules outside of the Appalachian area".

Q Outside of the area?

A There is a tendency for the market value of natural gas.

Q I am sorry. You exclude the Appalachian area?

A Yes I do.

Q And the Appalachian price has to do with special conditions?

A I would say the conditions are materially different than in the Gulf-coast and mid-continent area.

Q And if you get differences in the south and south-eastern parts of the United States between different gas fields, resulting in almost two and a half times the field price in one field than in another, would you expect to get differences between south-west United States and south-eastern United States

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and north-west Canada ?

A If you get an equivalent of the Appalachian area in the Gulf-coast field where you would have shallow wells, high cost of production where the cost of actually producing the gas might be ten to twelve cents, I would not expect the price of that gas to go down to five cents.

Q But what you tell me is this whether the price in one field or in another field should be greater or less depends upon all the elements going to make up the cost of gas and the services it performs, the local conditions ?

A I would say that the factors that I have indicated in my direct testimony as affecting value will in my opinion operate to determine that value. By that I mean this, the cost of producing gas in the Gulf-coast region and in the mid-continent area I believe may vary and does I believe over comparatively wide limits. It might be gas coming out of a gasoline plant as compared with gas from a dry well which might cost several cents or five cents.

Q I take it then if you were giving evidence as to determining proper prices in the Appalachian field you would not suggest the costs in the Pan Handle ?

A In determining the value of the gas at the well in the Pan Handle field, I mean in the Appalachian field, I believe that the price of gas in the Pan Handle field would have some influence on it.

Q But in the sense that it increases it to two and a half times or what ?

A If gas for example can be brought from the Pan Handle field to the Appalachian field for, let us say five cents, that might have some influence and I believe would upon that twelve cent price.

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The first part of the report deals with the general situation of the country and the progress of the work during the year. It is followed by a detailed account of the work done in the various departments and a summary of the results.

The second part of the report deals with the work done in the various departments.

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The eighth part of the report deals with the work done in the various departments. It is followed by a detailed account of the work done in the various departments and a summary of the results.

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Q I see. Then when you are considering the Pan Handle field in relation to the Turner Valley field you would have to consider five cents plus scrubbing, plus compressing, plus pipe line to Calgary. Would you, to get a true comparison ?

A I would have to consider. Could I get that question read again ?

Q (Preceding question is then read)

A No. That five cents I am speaking of is the field price. To some it is sold at that price at the well. To some it may be sold at the outlet of the gasoline plant. Now there is the difference I think it has to be recognized between the Hugonot gas or Pan Handle gas does not need to be scrubbed. I might make this one observation however that some of the pipe line companies may have such a high specification with regard to the sulphur content of the gas that it may even be necessary to do a certain amount of scrubbing of the sweet gas. I do not know of any gas but I can conceive that.

Q Mr. Zinder, I feel, quite unconsciously, you are running me down an alley and I want to get back to the proposition I put to you. You told me a few minutes ago that in determining if you were called to discuss the prices of gas in the Appalachian field the cost of Pan Handle gas delivered in that field which would be by pipe line would be considered. You just told me that ?

A Would be a factor.

Q Would be a factor. It is my suggestion to you when you discussed the Hugonot field or the Pan Handle field in relation to Calgary the cost of delivery of that gas to Calgary would be just the same kind of a factor. Is that not just logical ?

A Yes.

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Q And that does conclusively show that it is not any comparison. The old adage "comparisons are odious" is certainly applicable here. Would you go that far with me ?

A I would like to get one figure at a time.

Q All right. Then one figure at a time. Once you get to the point in discussing field prices in the United States with field prices in Canada on a comparative basis you have also to consider the cost of delivery from those areas to Calgary or your whole comparison is gone, is that right ?

A To begin with I do not know that I have compared the field prices in the United States with the field prices in Calgary.
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Q But/I am saying is now you cannot do it on that basis ?

A I think if I were comparing -

Q Won't you answer that whether you can do that or not ?

MR. McDONALD: He is answering the question. Please be fair to the witness.

MR. FENERTY: I am willing for the witness to give any explanation he wants.

MR. McDONALD: But he opens his mouth and you give him another question.

MR. FENERTY: The last time my friend gave a very interesting dissertation which did not answer the question.

Q Would you first please answer that question and then I will wait for your explanation ?

THE CHAIRMAN: Mr. Fenerty, I am letting you go to great lengths, but I do get the impression at times that when the witness starts to speak you do not like what he is going to say. You stop him and then you go back. I may be wrong.

MR. FENERTY: Well I will say frankly every time I have built up a sequence of questions and answers and when I come

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to the question at the top of the pyramid my friend realizes that is where I have got and he intervenes and I have to start all over.

Q Then I will ask the question again and if you think you are able to answer the question then you will proceed without interruption. Answer that in any way you wish.

Q (Question read) All right, one figure at a time. Once you got to the point in discussing field prices in the United States with field prices in Canada on a comparative basis you have also to consider the cost of delivery from those areas to Calgary or your whole comparison is gone. Is that right ?

A I would say the whole comparison is not necessarily wrong.

Q Would you say then it was shaky ?

A I would say that generally it is necessary or desirable to have such a comparison made.

Q Now on Page 1 of Schedules #6 and #7 I want to refer to a statement about fuel. That has nothing to do with the schedule that is being withdrawn ?

A It is my understanding that Schedules #6 and #7 have been withdrawn.

Q But this statement I do not think is affected by the withdrawal and I want to read it and see whether you want to qualify it or not.

(Go to Page 4065)

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H-2-1 11.20 a.m.

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Q Yes. I want to refer you to the 1, 2, 3, fourth pararaph in the first page, "Domestic fuel oil is a by-product of the refineries at Calgary, and is available at the minimum price." That statement still holds true, I take it?

A If it is agreeable to you, I would prefer not to answer any questions with respect to 6 and 7 until our revisions of that schedule and that discussion are completed.

Q I am not going to ask you anything as a result of the minimum price at all, I just want to discuss the relationship of the remarks in that paragraph, you see. There is a statement that it is a by-product of the refineries at Calgary, and is available at a minimum price. That is the economic consequence of the thing being a by-product, it is available at a minimum price?

A I cannot speak with respect to that statement.

Q Yes?

A It is my understanding that the domestic fuel oils is a by-product of the refineries such as there is available in Calgary. I have not completed the work on that. And its availability at a minimum price, I do not know really what that minimum price might be in relation to. I would want to look into that.

Q You do not think that that means that it is available at the minimum price because it is a by-product?

A It might be so.

Q And that is a normal result?

A I say it might be so. I will check it.

Q And it is a normal result isn't it?

A Yes, I would say in a competitive market.

Q And if this natural gas happened to be a by-product of the

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oil operations, that should also be a normal result; any difference from fuel oil and gas?

A Yes, I would say so.

Q It should be the result, you say?

A Yes.

Q Yes. I will leave that. Now I want you to go back a moment, - I am sorry I am going to be a few minutes longer. I was thinking about the time, whether you wanted me to try and finish, I am afraid I will be a little while longer.

THE CHAIRMAN: Perhaps we had better adjourn if you are going to start something else.

(At this juncture a short adjournment was taken).

Q MR. FENERTY: Mr. Zinder, in your submissions you have made comparisons between the cost of gas in Calgary and the lowest ten United States cities of fifty thousand population, and on Chart No. "C" I notice that most of those cities are up in what we call the Southern portion of the United States, West Virginia, Texas, the City of Jackson and so on. Is it true that the cities having climates that those cities enjoy, the consumption per head, we will say, would in all probability be much less than say the consumption for heating in Calgary in winter?

A Yes, the consumption for heating in these cities I would judge would be much less than for Calgary, in the Southern cities, yes.

Q Would the fact that the consumption, were it here, was much less necessarily would affect the cost to consumers?

A The volume of consumption might not be nearly as important as the load factor.

Q Let me take an extreme case. Suppose you had a gas supply

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in a tropical country where the only use was a limited period, perhaps three times a day for cooking, and you had a distribution system extending over a large city with the minimum use, the charges for those services would necessarily be much greater than if those individuals were each consuming a large amount to heat a house in zero temperature, wouldn't it?

A Yes, both in volume increase and volume of sales, in a distribution system barring unusual differences of load factor, I think lead generally to lower unit costs.

Q Yes. And is it fair to assume that even though you found a householder who would pay double for his cooking gas, say from \$1.00 to \$2.00, he might not pay \$60.00 instead of \$30.00 for heating for a month?

A That is possible.

Q It is probable isn't it?

A I do not know that it is probable. It is possible.

Q And does that tend to show that you can have no comparison between cities where climatic and other conditions are entirely dissimilar?

A I think you can compare them, Mr. Fenerty.

Q I just wanted your answer. Now, one other thing, perhaps three other things, but one at the moment. I take it that you felt that what is paid at the well head in other places and what is paid by the consumer or by the distributing companies is relative to this discussion?

A I think so.

Q I suggest to you that if that be so that what is paid by the company or what is paid at the well head in Turner Valley, what is paid by the householder and by the distributing company right here under the conditions that exist is at

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least as relevant?

A Oh yes.

Q Yes. In other words, does it amount to this, that there must be a very good reason shown for a change?

A Very good reason for.....

Q For a change? You see, we have got a history of what has happened here, we have got a history of industry proceeding under those rates, and making a go of it?

A I would say that there should be always a good reason for any change in rates.

MR. STEER: Or anything else.

THE CHAIRMAN: Yes, or anything else.

Q MR. FENERTY: Yes. Now at page 10, at the bottom of the page, you referred to your conception of the position of the producer;

"He relinquishes his right of open and free marketing of his gas, a right of increasing value and importance with every increase in the commodity value of gas arising from new scientific developments. The fact that the producer is placed in this position makes his gas worth more at the well because his obligation to maintain production is greater, and his freedom of action is restricted."

Now, I want you to assume for a moment the converse of that situation. You have a producer who has freedom of action to dispose of his gas other than by flaring, and that as a result of the orders made by this Board there has been added to those rights a right to get in on this market which he previously did not have, you see?

A Yes.

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Q Does it follow that under the conditions you outline you have added to the value of his gas and under the conditions I have outlined you have subtracted from the value of his gas?

A Your question as to whether, as I gather it, is as to whether there has been an addition or a subtraction from the value of gas.

Q Putting it colloquially, you say because he has been circumscribed from his operations that adds to his value of the gas, and I say if that has been extended to his value of the gas, does that take away from it?

A I did not get one word in there.

THE CHAIRMAN: Would you read the question, Mr. Howard?

BY THE REPORTER READING: "Q. Putting it colloquially, you say because he has been circumscribed from his operations that adds to his value of the gas, and I say if that has been extended to his value of the gas, does that take away from it?"

A THE WITNESS: I would say this, first, with respect to my statement, a producer who is restricted in his market and has been asked to restrict that market, either by private contract or by governmental action would expect to get more for his gas than where he is unrestricted. That is pretty generally true in my experience.

Q MR. FENERTY: Yes?

A He may actually sell gas at the moment at a lower price under a short term contract for a year, two years or three years, than would he be asked for under a long term contract where he dedicates everything he has to that contract. That still does not alter the fact that in my opinion he expects to

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get more and considers the value of the gas more to dedicate all his holdings over a long period of time.

Q Yes?

A Now to the second part of your question, if I may, if I understand it correctly, if a producer has a market or has....

Q Freedom of action to seek his own market?

A Freedom of action to seek his own market, and has free action, and then has been given a market, if he has been given the exclusive market.....

Q Any market?

A Exclusively.

Q This market?

A That market would increase the value of his gas.

Q So that his gas is worth more because he cannot do with it as he pleases, and it is also worth more because he can do with it as he pleases, is that what you are telling me?

A No, I say it is worth more if he denied the right of going every place or any place for a market.

Q I see. The rule does not work both ways?

A No.

Q All right, that is your answer?

A Yes.

Q At present. Now then, apropos of that, doesn't the manufacturer normally bear the cost of creating his market, it is up to him to get it isn't it?

A The manufacturer may bear the cost of obtaining his market. There are cases where distributors may get the market for the manufacturer, and charge the manufacturer or charge the consumer.

Q Yes, and he may pass it on, he may be able in some circumstances to do so?

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A I would say usually it is passed on.

Q But in the first instance he bears the cost of it, doesn't he?

A Yes, I would think so.

Q All right.

A Yes, it is part of his costs, let me put it that way.

Q Yes. Now then, if a manufacturer over-estimates his market, or as an incident of production he over-produces and he has an excess of his commodity on his hands, he would normally bear the cost of handling that until he can sell it?

A He will bear the cost if he cannot pass it on in his price.

Q He will bear the cost until he sells it, until he passes it on to somebody?

A Yes, until he passes it on.

Q And the person that he passes it on to is the person who buys that product when the market requires it?

A Well, if you assume, Mr. Fenerty, that he has no market to begin with originally, then he has no one to pass it on to.

Q Well if he over-produces and he has no market for half of it?

A Well, if he has a market for half of his production, he may well try to pass those costs on to that half, and may be able to do so.

Q He may try. You would not expect him to get away with it if it was a utility matter, would you?

(Go to page 4072.).

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Q Now I want you to consider the position, if there is such a position, assume there is this position, a well operator who heretofore has not been on the line. He has been flaring his residue gas and as a result of Orders made by this Board, he gets on the line. He may be in a position, because of the quantity of his production or because of contracts or because of distances from the line, that he would never have gotten on the line but for a direction of this Board. Is his gas as valuable as gas in a large well right along side the line and that has just been hooked up?

A I would say that there was some difference in value due to distance from the line at the point of input. But within a single field I would be inclined to say that those differences are small comparatively. They might be large but I do not know. But my own feeling and my own opinion is that within a single field that irrespective of distance to a central point, a central gathering point, that generally the value of the gas is uniform over that field or would tend to be uniform over that field.

Q THE CHAIRMAN: Put it another way, Mr. Zinder. You assume you have 50 wells with all the gas flared. They had no market.

A Yes.

Q As a result of Orders made by the Board, which involved the construction or installation of a pipeline and compression machinery, he gets access to a market that he never had before. Should the well head price he gets bear some relation to the cost of the installation which secures the market for him? Or should all that be based on the present values of gas in

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Calgary, and if so in what proportion?

A My position, Mr. Chairman, is that irrespective of that cost of gathering that that gas has a value at that point. Its value may have arrived because of the market that is made available to him. However it has arrived and it has a value. Now should or should not he bear the cost of getting to that market is a question, as I see it, aside from the point of the value.

Q And do you want to deduct from the value of that gas the cost or part of the cost of getting it into the line?

A Well that all becomes a question of policy or equity. Because if it would be deducted from the value of that gas at the well - I know this that there are a number of instances in the States that I am familiar with where gas has been flared and is now gathered for the first time for use for pipeline purposes and prices have been established between the producer and the pipeline company of as much as 5 cents compared with the fact that the gas was flared before. Now in dealing with such a situation my experience has been that the Federal Power Commission has allowed that 5 cents and not deducted anything for any benefits that might have accrued to anyone or to who got the market for them. Actually, the Federal Power Commission Board has given the market to the pipeline company by means of a certificate which is granted to that company to construct that line and therefore in some way they could be said to have created the value or have created part of that value, but that has no influence on the question of a reasonable price for the purchase of that gas.

Q MR. FENERTY: The result of that approach is that

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the wholesaler rather than the ultimate consumer pays for that operator having the privilege of getting on the line?

A Yes, the ultimate consumer pays for it.

MR. FENERTY: If the Board pleases, I have not had an opportunity of studying the new material in the time at my disposal and I am going to suggest that perhaps if some of the other counsel will be good enough to go on now and then I might have an opportunity of further cross-examination.

THE CHAIRMAN: Quite right.

Q There is one point about this Huberton field. You told me there was a 5 cent price in the field. Assuming for the moment that is a fair well head price, and then assume for the moment that 5 cents was also a fair well head price in Turner Valley, would it be proper to deduct from the Turner Valley price the cost of scrubbing because it was not sweet gas, from the 5 cents.

A If 5 cents was a fair field price in Huberton at the well head.

Q Yes.

A And 5 cents was a fair price in Turner Valley at the well head.

Q Yes, who would stand the cost of scrubbing?

A The cost of scrubbing would be absorbed by the consumer.

Q By the consumer. How deep are the wells in Huberton?

A I do not know that I can say offhand. I think they are not nearly as deep as they are here.

Q And in what type of formation?

A I cannot say as to that. I confess I am not a geologist.

Q Those two factors would naturally have a bearing on the well head price?

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H. Zinder,
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- 4075 -

A I think they would. I may say this, Mr. Chairman, that the cost is determined by the Federal Power Commission on the usual regulatory principles of production and the cost in the panhandle field has been much less than the prevailing field price. In other words a cost as low as $1\frac{1}{2}$ to 2 cents has been found on usual regulatory principles. That situation is the reverse of what you have here. I have tried to apply the usual regulatory principles here and found costs quite high, which I believe are in excess of the value of the service. Whereas down in a field like the Huberton field I think you will find costs below the value of the service.

Q In the Huberton field, I gather from your evidence that the present 5 cents was not fixed by the Commission but was found by the Commission to be the going price.

A That is right.

Q And therefore a bargain price.

A That is right.

Q And if adopted by the Commission it becomes a maximum price and the producer can sell below that price if he wishes. Is it not a usual principle in Public Utility practice to fix a maximum price and in selling it the producer might go below the ceiling if he wishes?

A I do not know what the Oklahoma law is, Mr. Chairman. I do not know if they establish the selling price. They might have. In this particular case they simply established a price below which the Plant could not get gas. In other words they directed the use of the gas for that purpose provided the price was not less than 5 cents.

Q That was the floor instead of the ceiling?

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. This section also outlines the various methods used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the financial aspects of the organization. It provides a detailed breakdown of the budget, including income, expenses, and the resulting surplus or deficit. This section also discusses the financial goals and strategies for the upcoming year, as well as the measures taken to ensure the organization's financial stability.

3. The third part of the document addresses the operational aspects of the organization. It describes the various departments and their functions, as well as the processes and procedures that govern the organization's operations. This section also discusses the challenges faced by the organization and the steps taken to address them.

4. The fourth part of the document discusses the organization's relationship with its stakeholders. It describes the various groups and individuals who have an interest in the organization, including the board of directors, the staff, the volunteers, and the community. This section also discusses the organization's efforts to engage with these stakeholders and to address their concerns.

5. The fifth part of the document discusses the organization's future plans and goals. It describes the various initiatives and projects that the organization is planning to undertake in the coming years, as well as the resources and support needed to make these plans a reality. This section also discusses the organization's commitment to continuous improvement and to achieving its long-term vision.

H. Zinder,
Cross-Exam. by Mr. Fenerty.
Cross-Exam. by Mr. Steer.

- 4076 -

A That is right. That is as I understand it.

THE CHAIRMAN: Are you ready, Mr. Steer?

CROSS-EXAMINATION OF THE SAME WITNESS BY MR. STEER.

Q You tell us, Mr. Zinder, you are not a geologist?

A That is right.

Q And I gather from your statements in your opening remarks that you have had no actual experience in the oil industry outside of what you got with the Federal Power Commission.

A That is right.

Q And your work with the Federal Power Commission is paper work.

A Largely so.

Q You have had, I presume, no experience whatever in the negotiation of contracts for the sale and delivery either of gas or of oil.

A I would say that I have had some experience, limited, in the negotiation of contracts for the sale of gas.

Q Then perhaps you will tell us what those were.

A I participated only very recently in the sale, or rather the purchase of gas by a pipeline company, the purchase involving approximately 175,000,000 feet a day.

Q What pipeline company?

A That was the El Paso Natural Gas Company.

Q What was your connection? Who were you acting for?

A I was acting for the El Paso Natural Gas Company. I will admit that that participation was limited but I did attend conferences dealing with the discussion of the terms of that contract, its agreement, the provisions and the price.

Q Where did those conferences take place?

A Those conferences took place in Los Angeles.

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H. Zinder,
Cross-Exam. by Mr. Steer.

- 4077 -

Q Have you any knowledge of the circumstances surrounding the production of the gas in question?

A Anywhere?

Q Have you any knowledge of the circumstances surrounding the production of the gas that you were dealing with?

A Yes I did.

Q Where did you get that knowledge?

A From the company people.

Q They told you?

A That is right.

Q You had never been in the area in which the gas was produced?

A Not actually at the site.

Q And whatever information you have you got from company officials who told you?

A That is right.

Q You never did make any investigation of any field on the ground?

A What type of investigation?

A Any type of investigation.

A Yes, I did.

Q Where.

A I went over the entire property of the Chicago Corporation.

Q What is it?

A It is a large producer of natural gas in the Gulf coast area and has gasoline plants and sells gas to the Tennessee Natural Gas Company.

Q For what purpose did you go over the property?

A To become acquainted with it.

Q Were you competent to investigate the conditions under which the gas was produced in that property?

C-3-1 11.50 A.M.

H. Zinder,
Cross-Exam. by Mr. Steer.

- 4078 -

A I would say as to conditions of production, no. I am not a geologist.

Q And for what purpose were you making the investigation?

A The purpose of the investigation was to become familiar with all the operations of that company and the Tennessee Natural Gas Company.

Q Yes. Now apart from this one contract which you spoke of, you know nothing about the methods that are used by producers of natural gas and purchasers of natural gas in arriving at prices.

A Except to the extent, Mr. Steer, of the numerous contracts which I have gone over, during the seven years I was with the Federal Power Commission.

Q Yes, and those contracts were contracts that were submitted to the Commission for its approval.

A Broadly speaking, yes. The Commission does not approve contracts of that kind, Mr. Steer. They were submitted for filing with the Federal Power Commission.

Q Very good. That is to say the producer and the purchaser of natural gas made their contracts and filed a copy with the Commission?

A That is right.

Q Is that right?

A That is right.

Q And you studied the contracts?

A That is right.

Q And you had no power either to approve or reject them, I gather that is what you are telling me.

A Except in the form of an investigation where the Commission investigated the reasonableness of the price.

1. The first part of the report is a general introduction to the subject.

2. The second part is a detailed description of the methods used in the study.

3. The third part is a discussion of the results of the study.

4. The fourth part is a conclusion and a list of references.

5. The fifth part is a list of appendices.

6. The sixth part is a list of figures and tables.

7. The seventh part is a list of footnotes.

8. The eighth part is a list of symbols and abbreviations.

H. Zinder,
Cross-Exam. by Mr. Steer.

- 4079 -

Q If somebody says "that is too high a price to pay" then they get a Commission under way and they investigate the price?

A That is right.

Q And these figures which you have given us in this Report of yours are figures which you have obtained in that way from the Federal Power Commission?

A They are obtained, as stated, from the files and reports of those companies filed with the Commission.

Q Beyond that you have no personal knowledge.

A Beyond what I have just stated, yes.

Q Yes, and in approaching the problem which you are dealing with in this submission of yours, on page 7, perhaps if you will refer to it, you have a section headed "Cost vs. Value" and in that section you discuss the possible application of the investment theory or pricing to the problem we are facing here, am I right in that?

A That is right.

Q And you conclude, as a result of your investigations, that that theory of pricing is absolutely inapplicable to these circumstances, am I right in that?

A I would not recommend it, yes.

Q Yes. Then, that being so, there is only one other approach, the approach which you do talk of, regarding the gas as a commodity, is that right?

A As regarding gas as a commodity and having a value, apart from its cost, as determined under utility regulatory principles.

Q Quite so.

A Yes.

Q Now if you regard gas as a commodity and you approach the

1. The first part of the report is a summary of the work done during the last year.

2. The second part is a detailed account of the experiments carried out.

3. The third part is a discussion of the results obtained and a comparison with previous work.

4. The fourth part is a conclusion and a list of references.

5. The fifth part is a list of the names of the persons who have helped in the work.

6. The sixth part is a list of the names of the persons who have read the report.

7. The seventh part is a list of the names of the persons who have approved the report.

8. The eighth part is a list of the names of the persons who have signed the report.

9. The ninth part is a list of the names of the persons who have read the report.

10. The tenth part is a list of the names of the persons who have approved the report.

11. The eleventh part is a list of the names of the persons who have signed the report.

12. The twelfth part is a list of the names of the persons who have read the report.

13. The thirteenth part is a list of the names of the persons who have approved the report.

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15. The fifteenth part is a list of the names of the persons who have read the report.

16. The sixteenth part is a list of the names of the persons who have approved the report.

17. The seventeenth part is a list of the names of the persons who have signed the report.

18. The eighteenth part is a list of the names of the persons who have read the report.

19. The nineteenth part is a list of the names of the persons who have approved the report.

20. The twentieth part is a list of the names of the persons who have signed the report.

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31. The thirty-first part is a list of the names of the persons who have approved the report.

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33. The thirty-third part is a list of the names of the persons who have read the report.

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question of what is a just and reasonable price to be paid for it, there are perhaps one or two or maybe three ways in which we can arrive at such a price, - having rejected the investment theory.

A That is right.

Q And as I gather, and subject to such qualifications as you made this morning, one of the ways is to consider prices that are paid elsewhere.

A I think so.

Q Yes, and I would like to be clear as to whether you want us to use those prices paid elsewhere, which are contained in your Brief, as a basis of comparison or not.

A I do think that they lend some assistance in arriving at what you ultimately, - I feel, Mr. Steer, must be the judgment figure as to what is the reasonable price for the gas at the well head.

Q Yes, and I will discuss that with you a little later.

A Yes.

Q Now that is one thing. Comparison with other prices and the second way as I gather it is to determine the price by comparing it with a price that people in this community have to pay for competing fuels.

A That is right.

Q But you did not discuss that now.

A I only discussed it in principle, Mr. Steer, as setting, in my opinion, as setting the upward limit of the price.

Q The detailed application of it, I understand you are to discuss with us.

A Yes.

MR. McDONALD: If we can possibly get into it.

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WITNESS: Yes.

Q MR. STEER: Is there any other way in which we can approach this problem of finding a price for this gas at the well head, than those two which I have suggested to you?

A I cannot think of any.

Q Is there any room in your theory for the application of the law of supply and demand?

A Well I would say "yes".

Q Do you think the first thing that one ought to do in approaching this problem of a just and reasonable price is to look at it from that point of view, the law of supply and demand?

A I would say not the first, one of the first.

Q Well is that not fundamental in any economic question of pricing?

A It is.

Q Fundamental ?

A Yes.

Q And I am suggesting to you that the proper approach is to regard it as a problem of supply and demand and then see if there are any modifying factors.

A Well, Mr. Steer, in my view.

Q That is what I want.

A The determination of the competitive position of gas with other fuels is that problem of the law of supply and demand, in my mind.

Q I see.

A I do not want to be de-emphasizing its importance. I think it is a very important factor, the determination of the competitive position of gas in the market in my opinion gives you the demand side of your equation, what people will buy

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1. *Chlorophyll a* and *Chlorophyll b* contents were determined by spectrophotometry using the method of Lichtenthaler and Whaley (1987).

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H. Zinder,
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- 4082 -

at certain prices gives you your demand schedule.

Q Perhaps, I do not know as I am following you.

A What I am trying to say is that the demand side of your equation of the law of supply and demand represents a series of prices plotted against quantity; in other words, if a price is 20 cents you will be able to sell a certain quantity. If the price is 10 cents you will be able to sell another quantity and those series of prices plotted gives you what I consider the demand side of your equation.

Q What you mean is that the man who refuses to pay 20 cents will go to one of these competitive fuels?

A Yes.

Q Is that it?

A That is right. Therefore I am simply trying to point out or illustrate that I certainly go along with the fact that the law of supply and demand is important in this consideration and that, in speaking of competitive prices, as I believe I did here, I was thinking of the demand side of that equation.

Q Yes. Now you know the Turner Valley situation in its broader sense and I suppose in no other sense.

A That is correct.

Q You know that the Turner Valley field was developed first of all and primarily by a search for oil.

A That is my understanding of it.

Q And you know that that area known as Turner Valley was drilled searching for oil?

A That is my understanding, yes.

Q And being drilled in a search for oil, you, from your experience, know that it was drilled in a very different way from that in which it would have been drilled searching

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for gas?

A That is probably so.

Q And you know that between 1922 and 1943, of some 1288 billion mcf's produced from that field, 1021 billion mcf's of it went to waste in the air.

A I cannot verify the figures but I do understand that a substantial part of it was flared.

Q Yes.

A That is right, in that period.

Q Yes, and that we have got now to the point where what we are discussing here is a possible economic reserve of some 345 billion mcf's of residue gas.

A Yes.

Q Do you know of any situation anywhere that compares to that?

A Do you mean, Mr. Steer, another field that has approximately 345 billion mcf's?

Q Oh no, I mean conditions like that. Do you know, well perhaps I had better go on and give you a few more facts, you know those?

A Yes.

Q Are you aware that for the past 15 years or more, there has been an agitation in this Province to prevent the terrific waste of that gas?

A I understand that is the case.

Q Yes. Do you know that various attempts were made without success?

A I am not familiar with those attempts, Mr. Steer.

Q Have you been informed that, of recent years, there has been an agitation on the part of oil well operators who are wasting that gas, to be permitted to share in the market

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. This section also outlines the various methods used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the implementation of the proposed changes. It details the steps involved in the rollout process, from initial planning to final execution. This section also addresses potential challenges and provides strategies to overcome them, ensuring a smooth transition to the new system.

3. The third part of the document discusses the ongoing monitoring and evaluation of the project. It highlights the need for continuous communication and collaboration between all stakeholders involved. This section also provides a timeline for the project, with key milestones and deadlines clearly defined.

4. The fourth part of the document concludes with a summary of the findings and recommendations. It reiterates the importance of the project and the need for continued support and resources. This section also provides a final overview of the project's goals and objectives, ensuring that all parties are aligned and committed to the success of the initiative.

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for the gas which existed in the City of Calgary.

A Yes, I understand that those operators just want to get a part of that market.

Q And at one point in your submission you refer to the sharing of this market as one of the main purposes for the enactment of the legislation under which we are now operating?

A Do I?

Q At page 10.

MR. McDONALD: Yes.

WITNESS: Yes, that is right.

Q MR. STEER: One of the main purposes?

A Yes.

Q The other purpose being what?

A The conservation of the gas. The determination of reasonable prices.

Q If we count in the conservation of gas in the way it has been done here, then the determination of the price follows, I think; we had those two reasons anyway for the enactment of this legislation, sharing the market, the prevention of waste.

A All right.

Q Which is the principal one?

A I do not know that I can say that, which one is more important than the other, Mr. Steer.

Q Now then, that brings us more or less down to date. Do you know of any comparable situation, - do you know of any situation anywhere, where 1021 billion mcf's of gas was blown into the air out of 1288 billion mcf's produced and then with a remaining reserve of 345 billion, legislation of this sort or any method was adopted to prevent the waste

The first part of the report deals with the general situation of the country. It is a very interesting and informative study of the country's development.

The second part of the report deals with the economic situation of the country. It is a very interesting and informative study of the country's economic development.

The third part of the report deals with the social situation of the country. It is a very interesting and informative study of the country's social development.

The fourth part of the report deals with the political situation of the country. It is a very interesting and informative study of the country's political development.

The fifth part of the report deals with the cultural situation of the country. It is a very interesting and informative study of the country's cultural development.

The sixth part of the report deals with the environmental situation of the country. It is a very interesting and informative study of the country's environmental development.

The seventh part of the report deals with the international situation of the country. It is a very interesting and informative study of the country's international development.

The eighth part of the report deals with the future of the country. It is a very interesting and informative study of the country's future development.

The ninth part of the report deals with the conclusion of the study. It is a very interesting and informative study of the country's development.

The tenth part of the report deals with the appendix. It is a very interesting and informative study of the country's development.

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of the remaining gas and to permit the wasters to share in the market?

A: No, I do not.

Q: There is no other situation like it in the world?

A: Well that is a broad statement, Mr. Steer.

Q: On page 2, you emphasize the inter-relation of energy sources and I take it that what you mean by that is if coal could be got all around cheaper than gas, people are going to use coal, is that what you mean?

A: Yes.

Q: In other words, you are looking at the situation from the point of view of competition from other sources of energy, is that right?

A: Yes.

Q: If you are looking at it from that point of view, should you consider the tremendous quantities of gas, both in the Turner Valley field and outside of the Turner Valley field, which are competing for this market?

A: Yes.

Q: Yes, and if it is established that there is produced, - I say that if it is established that there is produced as a by-product of the development of oil and as a by-product of the development of gasoline, natural gasoline, in this field, tremendous quantities of gas which, unless they can find the Calgary market, are going to be wasted, then you would say that that was a source of competition, would you not?

A: Under those conditions, yes.

Q: Well those are the conditions, are they not?

A: Unless that gas can be repressured and saved and conserved.

H. Zinder,
Cross-Exam. by Mr. Steer.

- 4086 -

Q I will discuss that with you in a few moments.

A Yes.

Q Now I am not going to labor these competitive energy sources because I think my learned friend, Mr. Fenerty, covered it pretty adequately but I want to ask you this, you do not say that the consumer in Calgary ought to pay for his gas a figure that is just a little less than he would have to pay to get the equivalent heating value and convenience out of coal.

A No, not necessarily.

Q What do you say?

A I say that that is, - that establishes the upper limits of the value of the gas.

Q Yes. Why should the consumer of gas in Calgary be asked to pay a cent more for the gas than the law of supply and demand will compel him to pay?

A Only under conditions, Mr. Steer, of where there may be an added cost in order to have the supplier do certain things.

Q Quite so.

A Which might be in the better interests, that they would not do otherwise.

(Go to page 4087)

1. The first part of the document is a list of names and addresses of the members of the committee.

MEMBERS

1. Mr. J. H. Smith, 123 Main St., New York, N. Y.

2. Mr. A. B. Jones, 456 Elm St., Boston, Mass.

3. Mr. C. D. Brown, 789 Oak St., Chicago, Ill.

4. Mr. E. F. Green, 101 Pine St., Philadelphia, Pa.

5. Mr. G. H. White, 202 Cedar St., St. Louis, Mo.

6. Mr. I. J. Black, 303 Birch St., Portland, Me.

7. Mr. K. L. Gray, 404 Spruce St., Seattle, Wash.

8. Mr. M. N. Hall, 505 Ash St., Denver, Colo.

9. Mr. O. P. King, 606 Willow St., Salt Lake City, Utah.

10. Mr. Q. R. Lee, 707 Poplar St., San Francisco, Cal.

11. Mr. S. T. Young, 808 Hickory St., Los Angeles, Cal.

12. Mr. U. V. Wright, 909 Walnut St., San Diego, Cal.

13. Mr. W. X. Scott, 1010 Chestnut St., San Jose, Cal.

14. Mr. Y. Z. Adams, 1111 Madison St., Sacramento, Cal.

15. Mr. A. B. Baker, 1212 Broadway, New York, N. Y.

16. Mr. C. D. Clark, 1313 Broadway, New York, N. Y.

17. Mr. E. F. Davis, 1414 Broadway, New York, N. Y.

18. Mr. G. H. Evans, 1515 Broadway, New York, N. Y.

19. Mr. I. J. Fisher, 1616 Broadway, New York, N. Y.

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Q Quite so. I gathered from your answers to my friend Mr. Fenerty yesterday that that was your view that the citizens of Calgary and of the other towns and cities that are connected with this Canadian Western system had urged the adoption of this scheme so as to conserve this gas. That was your proposition ?

A That is right.

Q And apart from those people asking for the conservation then there is not any reason why they should not be entitled to get their commodity in the same way as other people get their commodities by having the law of supply and demand applied to it ?

A Except one thing, that perhaps Mr. Steer I agree with. One possible exception - that is whether they ask for it or not if they receive certain benefits as a result of it there might be some justification for saying that they should pay part or all of the costs of those benefits that they receive.

Q Yes, I see.

A Yes.

Q You recede from the position you took a moment ago and you add that qualification ?

A I think that is a matter that should be considered. It occurs to me that when Mr. Fenerty raised the question yesterday I stated that that might be one factor namely that the consumers requested this thing because they would receive certain benefits it might add a value to it.

Q And another proposition you put forward was that the price ought to be such as to keep in business the parties who are rendering the service. Is that right. That is the proposition that I understood you to put forward this morning.

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H. Zinder,
Cross-Exam. by Mr. Steer.

- 4088 -

A I said it ought to be such.

Q As to keep in business the parties that are rendering the service. Is that it ?

A Within the limits of that upper limit.

Q And the parties who are rendering the service from the present point of view are the people who are producing this gas ?

A I was speaking in terms of the whole process - that is the parties who are rendering the services are the producers, the gatherers, the pipe line company and the distributors, all the way through.

Q Quite so, but what we are talking about is the well head price of gas ?

A That is right.

Q And we are not interested in other aspects of the subject ?

A All right.

Q And I want to know whether that proposition of yours is a sound proposition as applied to the producer of gas ?

A I would think so.

Q And our point of view should be in your view that we consider it a just and reasonable price from the point of view of what price is necessary to keep the parties in business who are rendering the service of producing this gas ?

A That is one factor.

Q Is that your point of view ?

A Yes, that is one factor.

Q What are the other factors ?

A Well the other factors are that I say the producer should have the value of the service. If you cannot keep him in business, Mr. Steer, by paying him a price on a value for the gas delivered at the pipe line he might get that price somewhere

H. Zinder,
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else.

Q I will discuss that with you. Are you talking about the value of the service now or the value of the commodity ?

A Let us call it the value of the commodity, yes.

Q What do you mean just by the value of the commodity. Do you mean the price or do you mean value ?

A Price expression. It is an expression of value Mr. Steer.

Q What is your understanding of the meaning of that ?

A Value is most frequently defined as what something will bring in terms of other goods.

Q Value ?

A Yes.

Q Wait a moment. Maybe you are not an economist ?

A I do not claim to be an economist, no.

Q And you have not had any training as an economist ?

A Well I have had some.

Q Because I am going to suggest to you that the word value connotes one thing and one thing only and that is usefulness.

A Its usefulness to society. It can be expressed. I won't argue with you as to the definition of value. I think you can define value in terms of what it will obtain in terms of other goods and it is also expressed in terms of price.

Q You are talking there of market value ?

A Yes.

Q And whenever you use the word value throughout this submission of yours you mean market value, do you ?

A I would say so.

Q And the only difference between market value and price is that price is always expressed in terms of money ?

1. The first part of the report is devoted to a description of the work done during the year.

2. Results

3.1

The first part of the report is devoted to a description of the work done during the year.

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The tenth part of the report is devoted to a description of the work done during the year.

The eleventh part of the report is devoted to a description of the work done during the year.

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The twenty-first part of the report is devoted to a description of the work done during the year.

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The twenty-third part of the report is devoted to a description of the work done during the year.

The twenty-fourth part of the report is devoted to a description of the work done during the year.

The twenty-fifth part of the report is devoted to a description of the work done during the year.

H. Zinder,
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A Yes.

Q And market value may be value in exchange for goods other than money ?

A That is right.

Q Yes. Is there any difference in the value of the natural gas that is delivered into the Madison scrubber under this system and the value of the gas that was blown into the air to the extent of billions of Mcf at times ?

A I would say not.

Q None whatsoever. That gas is just as valuable, was just as valuable when it was being blown away as it is today ?

A I would say ^{so}/considering the factors which determine value, the competitive factors being the same at that time as they are now.

Q What makes the difference in the price that can be commanded for that product which certainly had a value then and has a value now. What makes the difference in the price that could be obtained for it, the market ?

A I would say so, yes.

Q Only market ?

A Well yes.

Q It must be market ?

A Yes.

Q And where is the market for this gas produced in Turner Valley ?

A Essentially in Calgary.

Q Anywhere else ?

A It might be outside of Calgary.

Q You are not suggesting for a moment we are going to pipe gas from a field that has a reserve of 345 billions to Winnipeg as you did yesterday ?

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H. Zinder,
Cross-Exam. by Mr. Steer.

- 4091 -

A I did not suggest it yesterday. I cited it as a possibility.
I did not suggest it.

Q Well let us get your view on it. Just answer the question. Is there any practical market for this gas other than in the Canadian Western system as it exists today ?

A Whether some of the chemical industries would come up to Calgary and locate a plant and what would be necessary to bring them up here as compared with gas prices elsewhere and markets and all the factors that go into it, I do not know, but it has a possibility. The existing market today is the Canadian Western system.

Q And what would be necessary to induce an aviation gasoline plant to establish itself here, or a carbon black plant or an ammonia plant. You are neither trained nor competent to judge.

A Is that your opinion ?

Q No I am asking you that as a question quite respectfully.

A I am sorry I took it that way. I think my training would permit me to make an analysis of the economic factors which would go into such a determination.

Q Have you done it ?

A I have not.

Q Are you able to tell us. I notice in here you mention the Fischer-Tropsch process that uses 150 million cubic feet a day ?

A Yes.

Q Is that a small or a large Fischer-Tropsch plant ?

A Well it is termed a pilot plant, an experimental plant and I would say it would be a large plant as far as I know.

Q A pilot experimental plant ?

A Yes.

Q A pilot experimental plant. We all know what that is. That is

1. The first part of the report is a general introduction to the subject.

2. The second part is a detailed description of the methods used in the investigation.

3. The third part is a discussion of the results obtained from the experiments.

4. The fourth part is a conclusion based on the results of the investigation.

5. The fifth part is a list of references to the literature used in the report.

6. The sixth part is a list of figures and tables included in the report.

7. The seventh part is a list of abbreviations used in the report.

8. The eighth part is a list of symbols used in the report.

9. The ninth part is a list of units used in the report.

10. The tenth part is a list of definitions of terms used in the report.

11. The eleventh part is a list of acknowledgments.

12. The twelfth part is a list of appendices.

13. The thirteenth part is a list of footnotes.

14. The fourteenth part is a list of references.

15. The fifteenth part is a list of symbols.

H. Zinder,
Cross-Exam. by Mr. Steer.

- 4092 -

a small plant is it not ?

A Well -

Q I understand you make a pilot experimental plant to see whether your process will work and after that you go ahead and construct your big plant ?

A All right, yes, that is correct, Mr. Steer. This plant, let me get some ~~Mr. Steer~~ figures on it. Well I cannot answer your question as to whether it is a small or large plant.

Q Well if it is a pilot experimental plant you will perhaps agree with me it certainly is not the ultimate objective ?

A That is right.

Q And it uses 150 million cubic feet a day, and I am told that what is required of that 150 million feet is 10,000 cubic feet for the actual gasoline that is produced and another 10,000 feet for the power to make the barrels of gasoline. Would you disagree with that ?

A I could not say offhand.

Q And if those figures are correct then it would follow instead of your 15,000 barrels ultimate capacity. Oh I see, this pilot plant - if those figures were correct would be about a 7500 barrel plant. I am now looking at Page 7.

A Yes.

Q That 150 million cubic feet a day added to the requirements of the Canadian Western system, have you any idea of how long a reserve of 345 billions would last ?

A I have not figured it out on that basis.

Q You have not ?

A No. It would not be very long though.

Q Have you in mind all the reserves of gas that a man would have to see before he would be justified in making a capital

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H. Zinder,
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expenditure for a carbon black plant ?

A My idea would be ought to have reserves of at least ten or fifteen years.

Q And what amount of gas would be required for that purpose to induce him to come up here and establish a carbon black plant ?

A I cannot say offhand.

Q Or an Ammonia plant ?

A I do not know.

Q You are not able to tell us anything about the practical economics of any one of these suggested alternative uses that could be made for this gas ?

A Without making a study of them, no.

Q And that study you have not made ?

A That is right.

Q Somewhere here Mr. Zinder, on Page 2, going back as we have been led off on a side trail, - we were talking about this inter-relationship of energy resources and you say:

"Recognition of this inter-relationship is the first step in the development of a sound policy in the public interest."

A Yes.

Q Would you elaborate that and tell us what you mean ?

A Yes. The fact that there is an inter-relationship between natural gas and coal for example, particularly coal, and of course fuel oil and others, I think, is the reason back of the general investigation that the Federal Power Commission is making of the natural gas industry, or one of the reasons. The problems arise or have arisen rather in the States as to whether or not gas should be permitted to be used for firing under boilers in steam generating plants even though it meets

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the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 250 million to 450 million. The number of people aged 15-64 is expected to increase from 2.5 billion to 3.5 billion. The number of people aged 65 and over is expected to increase from 250 million to 450 million. The number of people aged 15-64 is expected to increase from 2.5 billion to 3.5 billion.

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains.

M-3-8

H. Zinder,
Cross-Exam. by Mr. Steer.

- 4094 -

competition and its price can be such on a supply and demand basis that it can be used economically for that purpose.

(Go to Page 4095)

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H-3-1 12.27 p.m.

H.Zinder,
Cross-Exam.by Mr. Steer.

- 4095 -

Q Yes?

A So that there is an inter-relationship there, a recommendation of that inter-relationship, and how the Government might want to use the natural resources of the company is a question, is a Governmental question involving policy.

Q Very well. When you are talking about the public interests here, are you talking about the public interests of the citizens of Calgary and its vicinity, or are you talking about the Province of Alberta? Or are you talking about the Dominion of Canada, or do you go further and take in the North American Continent?

A I was speaking of public interests here broadly.

Q How broadly?

A I would say with respect to the citizens of Calgary particularly and Alberta generally. I wasn't going to or didn't have in mind the entire Canada. I certainly did not include the United States.

Q Principally then, the citizens of Calgary?

A Yes.

Q Is there any reason in the public interest why the citizens of Calgary with a gas field at their door, should be compelled to pay more for that gas by reason of the fact that there is a coal area at Drumheller that can supply them?

A The question was, is there any reason why they should pay more for the gas?

Q Than the law of supply and demand would require them to pay by reason of the fact that there is a coal field at Drumheller?

A I would say that you cannot get them to pay more for the competitive value, that is, the demand curve established on competitive value.

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H. Zinder,
Cross-exam. by Mr. Steer.

- 4096 -

Q We will assume for the sake of argument, we will assume they can get gas cheaper than they can get coal. Now, what I want to know is whether it is your view, that being so, that it is in the public interest that they, having this gas field right at their door which will give them cheap gas, should be required to pay more than the law of supply and demand would compel them to pay because there is a coal field at Drumheller?

A No.

Q And, of course, if you put the coal field away down in Eastern Canada, gas or no gas, that is a different matter?

A Yes.

Q And if you are looking at it from the point of view of the public citizens, from the point of view of the public interest of the citizens, who are using this gas, that is your fundamental approach?

A Yes.

Q And if you are looking at it from the point of view of Alberta public interest, then I suppose you bring in as persons who ought to share the cost of preventing this waste a lot more people than the citizens of Calgary, don't you?

A Well if they expect to get or might reasonably get some of the benefits derived from it, they might reasonably be expected to share the cost.

Q Let me inform you that, as I understand this situation, the citizens of Calgary did not have anything to do at all with this legislation?

A Yes.

Q But that this legislation was the brain child of the Independent Producers plus the Government of the Province of Alberta. Did you know that?

MR. McDONALD:

Now, are you stating that as a fact?

1. The first part of the document is a list of names and addresses. The names are written in a cursive hand, and the addresses are written in a more formal, printed hand. The list is organized into two columns, with names on the left and addresses on the right.

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H.Zinder,
Cross-Exam. by Mr. Steer.

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MR. STEER: I am asking him if he knows it.

THE CHAIRMAN: And if it is a fact, is not the Government the people?

MR. STEER: I beg your pardon.

THE CHAIRMAN: If it is a fact, is not the Government the people?

MR. STEER: Not the people of Calgary.

Q Do you know that to be a fact, Mr. Zinder?

A No, I do not know that, what the exact fact is.

Q All right, we will leave that.

MR. McDONALD: I am afraid we will have to introduce a great deal more evidence.

MR. STEER: And I will be very glad to cross-examine on the evidence.

THE CHAIRMAN: I think the legislation is the result of the people acting through their duly elected representatives.

MR. STEER: Influenced, according to my information, by certain producers.

THE CHAIRMAN: And by the sight of flares burning millions of feet of gas every day.

MR. FENERTY: I did not want to interject, but I do not want any silence of mine to be considered as accepting anything that has been said. I do hope that there is no suggestion that the legislation is any brain child of the City of Calgary.

THE CHAIRMAN: I might add a lot more, Mr. Fenerty, but I might be accused of being unkind if I did.

MR. FENERTY: I am not concerned with being unkind, I am more concerned with accuracy.

THE CHAIRMAN: I do not think it is fair to try

H.Zinder,
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- 4098 -

and tie Mr. Zinder down to these two propositions at all.

MR. STEER: Would you look at page 3, Mr.

Zinder. You say there "In the present instance, the problem is one of fixing price". Now I would like you to tell me as to whether the price we are fixing is a price for gas developed to supply the Canadian Western system, or is it a price for the gas which up to the time of the making of the regulatory orders, was being wasted?

A I would say it is a price of the gas at the well which is going to market and eventually will go to market, that is, it is a price for gas being produced which is now going to the Calgary market or being repressured, that is, the Canadian Western market.

Q So that your answer to my question is that what we are fixing a price for is gas which is developed for the purpose of supplying the Canadian Western system, is that your answer?

A Gas that is being produced essentially for that purpose, yes.

Q Gas that is being produced essentially for the purpose of supplying it to the Canadian Western system, is that your answer?

A I said essentially there, didn't I?

Q You did?

A Yes.

Q Essentially?

A Yes.

Q Do you know the practical operation of the crude oil wells in this Province?

A You mean in the Turner Valley field?

Q Yes?

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H.Zinder,
Cross-Exam. by Mr. Steer.

- 4099 -

A I think I do.

Q Do you know that the oil is produced through the lifting power of the gas, and that until this scheme of regulation was adopted that gas is the gas that was flared?

A Yes.

Q Do you know that it was that waste and the waste of the flares that were burning at the outlets of the absorption plants, that this legislation had in mind, that the Legislature had in mind when they enacted this legislation. Did you know that?

A I do not know the legislative history of this Act.

Q Well, you told me there were two things?

A Yes.

Q One was to share the market and the other was to prevent waste, those were the two objects?

A Well, I think that is practically the case.

Q MR. McDONALD: You derived your knowledge from reading the Act?

A Yes.

THE CHAIRMAN: And the third one, Mr. Steer, to be quite fair, plus the over-production of the gas cap.

MR. STEER: Well, of course, the over-production of the gas cap.

THE CHAIRMAN: Within the limits of the Conservation Board's regulations, the gas cap was being over-produced as well as the gas being flared in the oil zone.

MR. STEER: Quite so. That is all a matter of waste as I suggested.

Q Now, Mr. Zinder, you either have knowledge of how this oil field operates or you have not, have you?

A I know that the gas is produced in conjunction with the oil,

• *Journal of the American Medical Association*, 2000; 284: 1039-1044

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H.Zinder,
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that is the casinghead gas from the oil wells.

Q And do you know anything more than that?

A Broadly speaking, I would say that is what I know of it.

Q Well do you know that until this scheme of regulation was adopted, that that casinghead gas, as you call it, was burned in a flare?

A Yes.

Q You know that?

A I understood that was the gas that was flared, yes.

Q And do you know that there were absorption plants operating in this Province with residue gas being burned in the flare to the extent that the market could not absorb it?

A Yes.

Q And do you know, or have you been informed that that is the waste gas that was in the minds of the Legislature in enacting this legislation?

A I cannot say as to all that was in their minds, Mr. Steer, but, as I understand it, one of the purposes of that legislation was to conserve waste gas, as I have stated, that is, flared gas.

Q And the gas that was being wasted in the manner which I have described?

A I would say so, yes.

Q Now, do you tell me that that gas, wasted in the manner that I have described, and with respect to the saving of which this legislation was enacted, could in any sense be said to be gas produced for the benefit of the Canadian Western system? Do you say that?

A Yes.

Q So that your view is, in answer to my original question, that

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H.Zinder,
Cross-Exam. by Mr. Steer.

- 4101 -

the price we are fixing is a price for gas developed for the purpose of serving the Canadian Western system, and is not a price for gas which was already being wasted?

A Yes.

Q It follows then that in the period prior to regulation, that gas was produced in exactly the same way before as after, wasn't it?

A I do not know I can say technically the gas was produced exactly the same way. There is, as I understand it, a market sharing arrangement with respect to the producer which may alter the amount that they produce now as compared with what they might have produced in the past.

Q Yes?

A But generally speaking the gas is produced in the same way before as now.

Q Would the gas be produced prior to regulation for the purpose of supplying the Canadian Western market?

A They did not have that market.

Q Would it be produced for the purpose of supplying the Canadian Western market?

A Would it?

Q Was the gas being produced?

A Yes.

Q Now, Mr.Zinder, let us not start quibbling.

THE CHAIRMAN: I think if you use the word "primarily" there, Mr. Steer, your question would be clearer.

MR. McDONALD: It did not make sense the way it was put.

MR. STEER: I think it did. Let us have the reporter read it.

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H.Zinder,
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- 4102 -

BY THE REPORTER READING: "Q Would the gas be produced prior to regulation for the purpose of supplying the Canadian Western market?"

MR. STEER: That is the question I want. Now, the question I put to you, would the gas.....was the gas.....

A Yes.

Q Produced prior to regulation for the purpose of supplying the Canadian Western market?

A This residue gas from the oil well was not as far as I know.

Q So produced?

A So produced.

Q Were the practical conditions surrounding the production of gas after regulation from these crude oil wells any different after regulation than before?

A The difference was that that gas was to be considered for future use by the Canadian market.

Q I am afraid I have got to take you over perhaps the Conservation Board regulations. Do you know about them?

A I am not familiar with them.

Q Do you know that the oil wells in this Province have each got an allowable production?

A Yes, I understand that is the case.

Q Do you know that allowable production is fixed absolutely independently of any orders made by this Board, this Natural Gas Utilities Board?

A Yes, I understand that to be the case.

Q Do you know that, broadly speaking, the allowables were the same subject only to the natural variations which production of oil will bring about, the same after regulation by this Board as before?

A I do not know that to be the case.

H. Zinder,
Cross-Exam. by Mr. Steer.

- 4103 -

Q Do you know that the amount of gas that would have been wasted if regulation had not come in would have been practically the same throughout the period?

A I do not know that, Mr. Steer.

Q I see. Well, you will assume, you will assume first of all that there has been no regulatory order made, there have been no regulatory orders made, will you assume that?

A All right.

Q And you will assume that these crude oil wells are being operated under the regulations of the Conservation Board?

A All right.

Q And that has gone on up to the present time?

A All right.

Q And we have gas that is produced from these crude oil wells which is being flared?

A At the present time?

Q At the present time?

A Yes.

(Go to page 4104).

Figure 1

• *Chlorophyll a* (Chl a) is the primary photosynthetic pigment in most plants and algae. It is a green pigment that absorbs light energy in the blue and red regions of the visible spectrum. Chl a is essential for the light-dependent reactions of photosynthesis, where it converts light energy into chemical energy in the form of ATP and NADPH. It is found in the thylakoid membranes of chloroplasts.

• *Journal of the American Medical Association*, 1990; 263: 1033-1036

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

T-3-1 12.45 P.M.

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- 4104 -

Q Now then that flared gas is what the Government had in mind in enacting the legislation. That is the part that I had in mind. For my purposes that is all I need, that they had in mind in enacting the legislation. Have you got that?

A Yes.

Q Now the purpose of the Legislature was to save that flared gas. Let us assume that.

A That is right.

Q And the purpose of the legislation in no sense was for the development or the supplying of that gas to the Canadian Western system.

A Well it was saved for some purpose I would judge Mr. Steer.

Q Some useful purpose?

A Yes, for some future use.

Q One would have thought that they had that in mind, undoubtedly. Do you still say that the price we are fixing is a price for gas which was developed from the ground for the purpose of supplying the Canadian Western system?

A I still say "yes", Mr. Steer. Let me see if I understand your question and my answer correctly. The gas which is being produced whether from crude oil wells or gas cap wells at the present time in Turner Valley field has one major market and that is the City of Calgary. Some of that gas heretofore had been wasted. It is now being conserved and repressured. Conserved and repressured gas has a future use in the same market. As I understand it, that is the purpose of its conservation and repressuring is so that that gas now has the Calgary market, either now or in the future.

Q Yes, but you will not look at it from the point of view of

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H. Zinder,
Cross-Exam. by Mr. Steer.

- 4105 -

time when that gas is developed from the ground, will you?
You refuse to look at it from that point of view.

A The amount of gas produced is dependent upon the amount of
oil produced, I agree with that.

Q And it is produced for the purpose of lifting the oil to
the surface is it not?

A No, I would not say that it has just that one purpose.

Q What other purpose has it?

A Its market in Calgary is another purpose or use.

Q Were you going to say something else?

A No.

Q You are telling us that the crude oil well operators in
Turner Valley are producing this gas, residue gas that
normally would be flared for the purpose of supplying it
to the Calgary market?

A I say they are doing that now.

Q What you are saying is that they are producing that excess
gas from the ground, that they are producing it for that
purpose, is that right?

A That is one of the purposes.

THE CHAIRMAN: If I might suggest, Mr. Steer, the use
of the word "primary" might get you the answer that I know
you are looking for.

Q MR. STEER: Well, I will ask is that the primary
purpose, to supply the Calgary market? What do you say
about the primary purpose.

A Of the production of that gas?

Q Yes.

THE CHAIRMAN: In the oil zone.

A A crude oil well. I would say it is to lift the gas.

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H. Zinder,
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Q MR. BLANCHARD: To lift the oil, you mean.

A To lift the oil. I am sorry.

Q MR. STEER: And prior to regulation what was its primary purpose?

A Prior to regulation, probably its sole purpose was that.

Q That is what I thought you would say and really that is all I am trying to get you to tell me.

A Well

Q That the sole purpose of the production of that gas prior to regulation was the production of the oil.

A Yes.

Q Is that right?

A I would say so.

Q Now there are certain parts of that gas that do find a market but I am talking about the gas that was flared.

A Flared, yes.

Q And I am asking you this, that the sole purpose was the lifting of the oil prior to regulation..

A That gas that was flared, its sole purpose was that.

Q So that when this legislation is going through the Legislature what we have got down here is a situation where there are a lot of flares burning at oil wells and absorption plants and so far as the oil wells are concerned, the sole purpose of that gas, the production of that gas was to lift the oil, is that not right?

A That is right.

Q And how can you say that the price we are fixing is a price for gas that was developed to serve the Canadian Western system?

A Well, that gas that was flared, Mr. Steer, did not have any

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H. Zinder,
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market and as such did not have any value.

Q Perhaps you and I can get together if I ask you this question.

A All right.

Q Would that gas have been produced and flared in the same way if this Statute had never been enacted?

A The probabilities are that it would.

Q You know it would.

A Yes.

Q Don't you?

A What is that?

Q You know it would.

A I said the probabilities are that it would. I cannot say for certain about anything, that is dead certain about anything of that kind.

Q You do know that Turner Valley is an oil field, don't you?

A It has a gas cap, sir. It is an oil field, yes.

Q Is there any other oil field that has not got a gas cap, with a gas lift?

A I could not say, offhand.

THE CHAIRMAN: Mr. Steer, I was wondering if you were through with this phase if we might discuss the rest of the week for a moment.

MR. STEER: Yes, Mr. Chairman.

THE CHAIRMAN: For personal reasons I want to leave Calgary on Friday morning. I am prepared to sit till noon, but for personal reasons I would like to get away in the morning. Now if it will facilitate matters at all, I am prepared, if you Gentlemen are, to sit in the afternoons as well as in the mornings, in which case, of course, I think perhaps we should not start till 10 o'clock, I do

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not think we should sit as long a period. But if that cannot be arranged, then it is quite all right and I am prepared to sit till noon on Friday.

MR. BLANCHARD: I am sorry to say that I have made appointments that prevent me being here in the afternoon, because I assumed we had no afternoon sittings.

MR. McDONALD: Our position is this. We have Mr. Zinder here and the chances are he will not be available for another six months in view of his obligations in other quarters. The Gas Company have two parties here who are interested in this phase of Mr. Zinder's evidence and the question of competitive fuels or the price of gas in Calgary as compared to coal and other commodities. I anticipate that we will be able to deliver to the parties about early afternoon tomorrow, if not noon, the revision of the submission regarding competitive fuels. I then hope Mr. Zinder will deal with it and Mr. Steer will have with him those parties who are interested in that phase of the work and who can instruct him in cross-examination.

THE CHAIRMAN: Well that will depend to some extent on the cross-examination from now on.

MR. McDONALD: Yes, I think that is possibly so. What I had in mind was this that if this can be put in possibly by Friday morning, and cross-examination on Friday afternoon and then on Monday

THE CHAIRMAN: I will not be here Monday, Mr. McDonald.

MR. STEER: I am not at all sure, sir, that if this Brief is to be revised and being presented by Mr. Zinder, I am not at all sure we are going to be in a position to cross-examine on it, if it is furnished to us say on Friday morning.

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MR. McDONALD: I said Wednesday morning.

MR. STEER: Or Wednesday morning. We are pretty busy with other things right now.

MR. FENERTY: Our ability to be ready to cross-examine on that report necessarily depends to some extent on the length of it. As far as I am concerned, I have every day and every night of this week that I am willing to devote to this but if I am here I cannot be analyzing those figures. That is the only thing I have to say. I am agreeable to any arrangement that is made.

THE CHAIRMAN: We will just have to carry on and see what happens.

MR. BLANCHARD: There is no possibility of Mr. Hamilton being required this week, I take it, sir.

THE CHAIRMAN: None at all.

MR. STEER: I would suggest that my learned friend, Mr. McDonald, let us have that report as soon as he can because we will endeavour to facilitate the cross-examination on it but we cannot do the impossible.

MR. McDONALD: Will you let me have your engineer?

MR. STEER: He is not here.

(At this stage the Hearing was adjourned until 9.30 A.M.
14th November, 1945.)

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Mr. [Name] [Address] [City] [State] [Zip]

Dear Mr. [Name]:

I am writing to you regarding the [Topic] [Subject] [Matter].

As you know, the [Topic] [Subject] [Matter] is of great importance.

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